

Thursday, January 27, 1983

## IBM profits hit a record \$4.4bn

by Kevan Pearson

IBM has posted record results and profits of over \$4 billion.

The company showed major improvements in both sales and profit performance.

Net profits for the year jumped 22% to just over \$4.4 billion, and sales rose from \$29 billion in 1981 to almost \$34.4 billion.

The results confounded Wall Street analysts who last year predicted that IBM would not breach the \$34 billion sales barrier. However, the analysts are quick to point out that the company's results would not have looked so good had IBM not adopted the latest foreign currency translation accounting standards.

The company estimates that the new standard added \$449 million to net profit in 1982 over what would have been recorded under the old standard. Recalculating

1981 performance on the same basis, profits would have been up by just over \$300 million.

Fourth quarter results took profits to \$1.5 billion on sales of over \$11 billion, both quarterly records.

The breakdown of IBM's sales increase of 18.2% reflects some interesting changes in the company's business activities.

Gross income from sales rose by 30.3%, while revenues from its rental operations rose by only 2.6%, reflecting the company's switch in business emphasis from rentals to outright sales.

Over the last year or so IBM has consistently cut the prices of most of its products in real terms, despite frequent price rises, while at the same time increasing its rental charges.

Revenues from other services rose by 20.6% giving an average of over \$4.7 billion.



CRAY... His machines will design British armaments.

## Delay loses ICL two major orders

by Andrew Thomas

ICL's delay in making its Content Addressable Filestore (CAFS) available under the VME operating system has cost the company two major orders from the BBC. The broadcasting authority runs ICL 2900 mainframes, and is in the process of installing new 2988 processors, but IBM and Datapoint have benefitted from ICL's inability to deliver.

The new BBC World Reporter service, a 41 gigabyte database containing news stories from around the world and intended for use by journalists, has been set up on Datapoint's IBM 3081 at Sunbury on Thames, and the BBC has just installed a computerised telephone directory enquiry system based on Datapoint hardware.

Bob McLean, head of computer services at the BBC, says that he would have liked to have used CAFS for the system, but ICL

could not supply the requisite hardware.

"At the time we were designing World Reporter, about three years ago," he says, "only CAFS 800 was available, and that only ran under the old 1900 emulator, DME."

"I'm committed to running a VME-only service, so although CAFS was the best system to do the job, we had to go with the Status system from the UK Atomic Energy establishment at Harwell. I don't think we'll have CAFS until 1984 at the earliest."

Datafile has won an order for a 33-screen local area network based on its AIM software, and McLean sees this as another indication of ICL's marketing strategy.

ICL plans to commence deliveries of its CAFS ISP information server in the summer.

## Magnuson investigation

by Kevin Cahill

MAGNUSON Computer Systems is under investigation by the US Securities and Exchange Commission, which oversees the stock markets, as the firm's troubles continue to mount.

The exact nature of the investigation is unknown, although Magnuson employees have reportedly been asked to provide information to the Commission.

The company recently announced that it had ceased work on its next-generation IBM-compatible system.

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# Small firm brings floppy disc drive production to UK

by Robert Parry  
FLOPPY disc drive manufacturer has come to the UK. Data Track Technology, of New Milford, Hampshire, is poised to move from prototype to sample production of a twin slot 5 1/4-inch floppy drive, designed in the UK and to be built here using as many European-sourced parts as possible.

And while Data Track gets on going on its minifloppy, the search is on for European licensees to manufacture Hungarian microfloppy drives and media, with the UK seen as the prime target market in the West for the 3-inch discs.

The Data Track Technology minifloppy uses one set of motors and electronics to handle two discs, giving the company the ability to compete on price with the mass produced 5 1/4-inch offerings from the US and Japan.

"We stand no chance against

them in their home markets," says director Derek Higgins, "but in the UK and Europe we can hold our own." He reckons that the twinned Tracker will sell for about £100 a slot for the one megabyte capacity single-sided drives, and £120 a slot for the double-sided versions.

"British industry has been very encouraging," says Higgins. "It doesn't give favour to an one has placed any firm orders beyond evaluation units yet — but it is prepared to back us if we can compete on price and technology." The company was also bad backing from the government, with £40,000 through the MAP scheme.

A factory is being prepared to move into production volumes this summer, with quantities of 1,000 to 2,000 units a month expected by Higgins.

Meanwhile Hungary is looking westwards to the UK and Germany to provide the mass market for its Budapest-built MCD microfloppy drive. Everything is ready for full production to start next month, and the Hungarian foreign trading company Metrimex is casting around for other drive and media manufacturers to build the products under licence.

"We want Western production to bridge the problem of the drive's Eastern European origin," says Metrimex commercial director Vera Fazekas, adding that Mannesmann Tally in Austria and Dragon Data in the UK are interested.

"Exclusivity is the only real problem," she says.

On the media side — the drive uses 3-inch discs encased in plastic cassettes — Wabab (UK) and BASF in Germany are showing interest.

FAZEKAS... Looking to the UK for microfloppy manufacture.

## NCR rejects speech synthesis for talking tellers

by Boris Sedlacek  
Correspondent

MINISTERS are considering ways in which the Department of Industry might contribute to the work of the US Metropolitan Area Network (MAN) working group, a part of the IEEE 802 Committee on local area networks.

NCR has opted instead for a traditional analogue voice recording method on to a magnetic medium after years of research into speech synthesis. Analogue NCR says provides better flexibility for the customer in tailoring messages to the particular location where the terminal is to be sited.

The main contender to supply speech chips to NCR was ITT Semiconductors, but NCR's decision will be bad news for all semiconductor manufacturers dabbling in speech synthesis. That includes Texas Instruments, General Instruments, and National Semiconductor.

NCR could have given speech synthesis a stamp of respectability, but the problem with speech on silicon is that the user has to connect himself to a large production run.

As a result the customer who buys the terminal has to select words and utterances from a fixed vocabulary. Increasing the vocabulary increases the memory requirement, which in turn increases the complexity of stringing utterances together. This is expensive and sounds are still unnatural. Further, there is no allowance for different accents or dialects.

"It's better to have a machine in Aberdeen speaking with an Aberdeen accent, not a machine in Dundee speaking with a Dundee accent," explained Jim Adamson, general manager of NCR's Dundee office, where the 8080 terminal will be built.

The remaining three of the 802 committee's six working groups dealt with different techniques of local area networks. The other common standards were the high level protocols for functions such as file transfer and text handling.

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Peace demonstrators outside the Ada seminar at the Hotel Russell in London.

## Peace pickets at an Ada seminar

by Andrew Thomas

PRACE campaigners picketed a London hotel last week protesting over a seminar on the controversial Ada language. State of the Art, a military-oriented seminar, and Hotel Russell manager Geoffrey Duggan remained unmoved by the petition.

The Ada seminar was part-sponsored by the Institute of Data Processing Management, IDPM. Ted Cluff defended his organisation's support of the event.

"Fortran has been used on ballistic missiles for years — it's not up to professionals to make assumptions about the possible uses of technology. If we did, we probably wouldn't have phones, cars or

radios," he said.

In leaflets handed out during the protest, London Peace Action accused the organisers of the seminar, State of the Art, of promoting a dangerous and untested language which, it believes, could lead to a nuclear disaster.

State of the Art also came under attack for organising what London Peace Action describes as "arms trade promoting seminars". The group handed in a petition with 500 signatures to hotel manager Geoffrey Duggan, asking that the Hotel Russell should refuse to host further seminars organised by State of the Art or other bodies "promoting the arms trade".

Charles Davey, of London Peace Action, also wants State of the Art to stop organising military-oriented seminars, and says his aim is to make it more difficult for them.

The Ada seminar was part-sponsored by the Institute of Data Processing Management, IDPM. Ted Cluff defended his organisation's support of the event.

"It seems to be a fashionable topic to protest against war at the moment," he said. "It's not likely to affect our having State of the Art again — they don't just do military seminars you know. If you start getting into that halogen, you soon won't be able to do anything."

John Barnes, research director at SPL responsible for Ada, defended the language.

"It is more complex; it has to be because it addresses a larger domain than other languages. We've never encountered any difficulties in using it — it's certainly easier than Pascal."

"Ada's just an ordinary language that happens to have military uses."

Electronic warfare.

But a spokeswoman for State of the Art said that the action by the peace groups was not likely to halt further seminars, and Hotel Russell manager Geoffrey Duggan remained unmoved by the petition.

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# Torch to market Prestel in US

by Donald Kenett  
TORCH Computers of Cambridge was due to sign an agreement this week to take over the marketing of Prestel in the US.

Torch chairman Martin Vlieland-Boddy was in the US on Tuesday to sign the agreement under which it will take over from British videotex and Teletext (BVT), the Department of Industry-backed promotional venture run by Logica.

BVT's two-year contract with British Telecom to promote the Prestel database and Prestel systems in the US expires in March, but it will continue to promote UK videotex and teletext standards and to put US firms in touch with other UK suppliers. It also sells Logica's Context teletext

system for broadcasters.

A Prestel spokesman said: "A large number of companies approached us to carry out our US marketing. We chose Torch for a variety of reasons, the main one being that they market a product with a Prestel facility on it in the second and US."

BVT signed up 130 corporate users in the US, out of a total of 345 users outside the UK. Bill Shrimpton, Logica vice-president responsible for BVT, said that the marketing effort had concentrated on commodities information and latterly shipping, since the bulk of the Prestel data base was aimed at a UK audience.

Some US companies also had their own closed user groups based on the Jefferson Prestel centre in

Boston, but the total number of terminals in use with the system was only about 150, said Shrimpton.

Torch also has an office in Boston, where it will install one of its own computers with a 21 Mbyte Winchester disc drive to hold a 40,000 page database. The machine will have about 100 ports for subscriber access and will fetch pages across from Prestel as they are requested.

Vlieland-Boddy launched his company last April, when it became the first to sell a BT approved microcomputer with a built-in videotext modem. Starting at £3,000 for a processor with two floppy disc drives, it is claimed to be the cheapest machine capable of running a videotex service.

VLIELAND-BODDY... In US to sign agreement.

## UK sales through £100m barrier

by John Riley

THE VALUE of computer sales by UK manufacturers for the third quarter of 1982 has broken through the £100 million level for the first time since 1980, according to government statistics released last week.

Total sales worth £102,381,000 were recorded for the third quarter of 1982 for digital machines, a category which comprises CPUs and processors consisting of arithmetic and logic elements, and compact processing units with at least a CPU and an I/O unit. This figure compares favourably with the £84 million and £98.7 million for the second and first quarters of 1982 respectively.

Exports of digital machines and analogue and hybrid machines which were not separated in the export figures, were valued at £74,589,000 in the third quarter compared with £76.7 million and £73 million for the respective second and first quarters.



New mini commits DG to the 16-bit user

by John Riley

COMMITMENT to the 16-bit user, and support for OEMs, was affirmed by Data General with the announcement last week of a new 16-bit minicomputer at the top end of its Eclipse line.

The company also announced compatibility with ICL CO3, ICL's communications protocol, now can be supported by Data General's AOS operating system. An extension to its 32-bit range of minicomputers, the MV10000, is expected in March.

The new mini, the S/280, with a performance of 920K operations per second, is claimed to be faster than many entry level 32-bit minicomputers, and is 50% faster than DG's previous 16-bit top of line 8/250. The performance comes from the 4 Kbytes fast system cache memory which sits between the CPU and the main memory.

Compatibility is emphasised by the company and the standard operating systems RDOS, AOS and MP/AOS ensure that existing users can move software between machines.

Teachers do not have to be university members to attend.

The commercial division of DG has packaged the S/280 as a small business machine for its CS series, called the CS2/200C. It has the same board, with commercial terminals, peripherals and software. There is up to two Mbytes main memory, the total disc storage capacity exceeds 1400 Mbytes and 277 Mbytes disc packs are available. A typical cost for the CS2/200C will be £50,000, compared with the £60,000 for the MV4/4000.

"This puts the top CS system next to the MV4/4000, allowing users to grow in the 16-bit range without being forced to go to 32-bit," said Bill Cadogan, marketing manager for UK and Ireland. He added, "to reassure OEMs, 'The OEM and end user marketplace are not mutually exclusive, and we see OEMs as profitable and will continue to develop them.'

Although Evans welcomes the Department of Industry's recent initiative in putting micros into teacher training colleges at a cost of £1 million, he is concerned that the cost of the system is not being matched by the public funds provided to Inmos.

He said: "We are satisfied that public funds provided to Inmos were being used on the basis on which they were approved."

Butcher disclosed in another answer that the Secretary of State for Industry has given the British Technology Group clearance for the injection of further £15 million equity into Inmos to build up production at Newport.

See Company News - page 12

## DEC and ICL take up university package

by John Kavanagh

A UK university graphics package is set for success after winning international marketing agreements from Digital Equipment and ICL.

Bradford University's Simpleplot package is the only university system to be included in DEC's new Classified Software Catalogue - which means it will be sold by DEC itself. And the system has also been picked by ICL for its Perq scientific personal computer.

The agreements are expected to double the size of the university's software company, Bradford University Software Services. Simpleplot costs £950, plus £100 for drivers for devices such as plotters. It has 150 commercial and academic users around the world, excluding UK universities.

Simpleplot will be sold for DEC PDP 11 and Vax minicomputers, and Lawrence West, the university's industrial liaison director and a director of the software company, "We are

perfect for BT."

## SALES BRIEF

### Petroleum firm buys \$6m Cray

CRAY Research has notched up its fifth supercomputer sale this year with a leasing order from the Petroleum Company of Dakar, a Cray-1S worth \$6.7 million.

Sales of Cray supercomputers have improved since the company slashed its prices last year.

### Viewdata buyers

THORN-EMI has announced several contracts for its Thorneview data package, with Honeywell marketing for use in the DPS range of minicomputers. Buyers of the package include Gloucestershire County Council, Associated Dairies, and Clydeside Regional Council, which use it to provide on-screen information about government incentives to industry.

### Nuclear leaks

EARLY warning of radiation leakage is provided by a system installed for £300,000 at the Cumbria plant of British Nuclear Fuels by Solartron Industrial Systems, Farnborough, Hampshire.

But even to achieve this figure

the company needed an extraordinary tax credit of \$1.9 million. The tax credit came from certain of Andal's overseas subsidiaries which became profitable in 1982.

Under US tax regulations the company was able therefore to carry forward tax credits which resulted from previous years' operating losses. The \$1.9 million was added to the fourth quarter, resulting in a net profit of \$2.67 million. Net profit before the tax credit was \$74,000.

The boost in fourth quarter sales came mainly from increased deliveries of Andal's new top end system, the 580, and from the company's first foray into the disc storage market with the Fujitsu

# Profits fall but Amdahl on upswing

by Kavan Pearson

AMDAHL finished 1982 on something of a high despite suffering a 75% drop in its net profit.

Sales for the year rose 4.4% to reach \$462.25 million. And fourth quarter revenues jumped almost 18% to hit a new record of \$145.5 million.

The company's profit performance in 1982 left a great deal to be desired, though. The collapse which happened in the third quarter, a fall of 92% compared with the 1981 figure, was compounded by a 57% drop in the final quarter of 1982. Profits for the year were \$6.77 million, down from \$26.76 million in 1981.

The poor profit performance is blamed on the development costs and problems associated with the 580 series, the first shipment of

built 6000 series.

The company also received about \$6 million from Fujitsu to cover the cost to design and develop test equipment for Fujitsu.

The poor profit performance is blamed on the development costs and problems associated with the 580 series, the first shipment of

which was delayed by over six months because of a design fault.

John Lewis, Andal president, said: "Anticipated cost reductions from normal production learning curves, with increased volumes will provide the opportunity to improve substantially our financial performance in 1983."



## FACE TO FACE WITH SYSTEK

### "If I were in the market for another system I would go back to SYSTEK"

by John Kavanagh

THIS year will be the year of the network - and minicomputers

manufacturers will be hit as users move towards local networks of microcomputers sharing disc drives and other peripherals.

That is the view of the research

company International Data Corp., which notes also that although local area networks were expected to cover whole buildings and office complexes, they are instead finding success in individual offices or departments. It is here, where 15 or 20 devices are linked, that the threat lies to the multi-user business minicomputer and small mainframe.

IDC dismisses the possibility of the company telephone exchange becoming the communications centre for local networks. "As users become better acquainted with the capabilities of the newer network technologies, the notion that a private branch exchange could serve all the functions of a local area network will seem less and less plausible," the company says.

It is the small to medium-sized multi-user systems that are the most sluggish in the market at present," says IDC. "Shipments for these systems is quite modest compared to that for personal computers, but also compared to earlier growth rates."

Traditional minicomputer ven-

dors, for example, have nearly all felt the pinch recently. It may very well be that standalone and networked standalone systems will permanently dent the growth potential for small and medium multi-user systems."

IDC says networks will take off in 1983 because of microcomputer and network product launches by the likes of IBM, Digital Equip-

# NAS calls a halt to building computers

by Kavan Pearson

NATIONAL Advanced Systems has dropped out of the computer manufacturing stakes. In future it will sell only Japanese-built machines.

The company has been making only the AS 6100 series launched in May 1982 and aimed at the low end IBM 3431 machines. It will be replaced by a downwards extension of the Hitachi built AS 6600 series which currently competes against top end 3431s.

NAS has always been keen to stress its role as a manufacturer of IBM compatible computers, and not just a distributor of Japanese machines, so the decision will be a blow to its image. But it must make financial sense. The 3430 market is very price competitive and NAS cannot have been profitable on its AS 6100 manufacturing programme in San Diego. The closure of its plant will make for a significant cost saving.

NAS will continue to run some of its support operations from San Diego and under a licensing agreement with Hitachi, and it will manufacture memory for the Hitachi built AS 7000 series.

NAS' production line is now down to two series of current machines - the 6600 and the AS 9000 series.

in the IBM trade secret case.

He expects to return to profitability in the first quarter of 1983.

The AS 6600 series has gained a low end stablemate, the 6620, to replace the 6100. The new machine is directly comparable with IBM's 3431 Model 12 (rated at about 1.6 million instructions per second). It is field upgradable to the 6630, which in turn can be upgraded to the top of the range 6650 at 1.7 times the performance of the 3431 Model 12, according to NAS.

The first 6630 was shipped in October 1982. General availability of all 6600 series machines is expected in the third quarter of 1983.

Marlin says the decision to drop NAS' own product was taken because the Hitachi machine is a more competitive product.

NAS will continue to run some of its support operations from San Diego and under a licensing agreement with Hitachi, and it will manufacture memory for the Hitachi built AS 7000 series.

NAS' production line is now down to two series of current machines - the 6600 and the AS 9000 series.

"The sign of a good supplier," Terry Dart, SYSTEK's no obligation advisory service, concluded, "is that you'll go back to them. And I would certainly go back to SYSTEK."

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# Sperry fights to stay independent

Kevin Cahill looks at a firm's changing financial fortunes

A BATTERED Sperry Corp heaved a corporate sigh of relief last week at news of the \$480 million US Air Force order for its computer division.

The order, which will be worth \$100 million a year in hardware alone over four and a half years, will go some way towards stabilising the fortunes of Sperry Univac, the corporation's computer subsidiary.

Last year Sperry was virtually the only major computer vendor in the US to suffer a fall in market value on the US Stock Exchanges.

According to the annual investment score book produced by the American magazine *Business Week*, Sperry in 1982 dropped 2% points

in terms of market valuation compared with IBM, which rose 54%, DEC, which rose 23%, and Honeywell, which rose 42%.

The market valuation is the share price multiplied by the number of shares issued and is a good indicator of how investors view the company.

A consensus of investment analysts taken by *Business Week* showed the finance men forecasting a drop of nearly 40% in earnings per share at Sperry for 1983/84 – from \$5.25 to \$3.45.

Admittedly the analysts are forecasting a 19% recovery to \$4.49 for 1984/85, which will give some comfort to the worried management.

Although Sperry has not been named directly as a possible target, New York analysts have noted the company's vulnerability, heightened by the worse than expected third quarter results. Admittedly the Sperry Corp results incorporate major agricultural and other divisions which are suffering far more in the recession than the Sperry Univac subsidiary.

The corporation results for the third quarter, which followed a poor second quarter showed that profits fell from \$51.1 million in the same quarter last year to \$40 million, a 22% drop. Coming in the wake of the earlier slide of 75% to just \$25 million, many analysts began to fear for the company's future.

According to Sperry's chairman, Gerald Probst, who took over from the ebullient Paul Lyster last year, a recovery in the remainder of the year is expected. He said that sales of both data processing equipment and defence sector electronics were "strong".

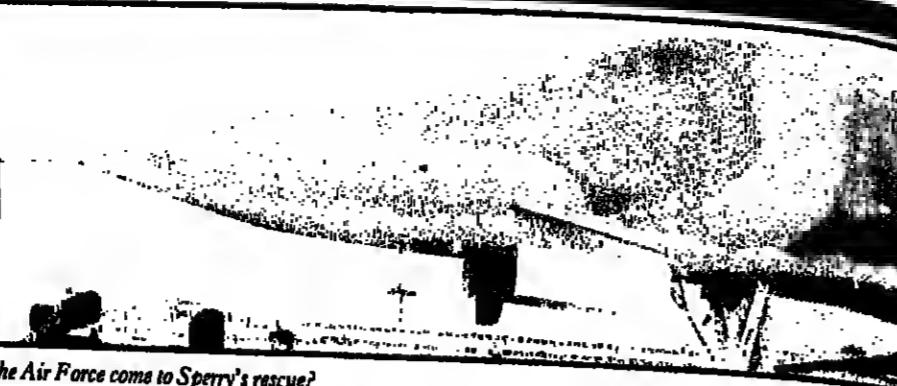
But the sales in those two sectors have to be balanced out against a

31% drop in sales in the agricultural machinery sector, and 24% in the hydraulics engineering field.

American commentators have also suggested that Sperry Corp should focus on its two profitable sectors, computers and defence electronics, and divest itself of the machinery and engineering divisions.

Sperry seemed to have taken that kind of advice when it disposed of its UK Sperry Gyrocopter division.

But in public the corporate management is resisting the call for divestment, and Probst is doggedly maintaining an optimistic



PROBST ... Recovery in remainder of year is expected.

outlook for an improvement this year.

In the UK Sperry is having a tough time. Overall the UK subsidiary has lost over 260 staff by way of redundancies and natural wastage since May 1982, but management says that recruitment has now started again.

The company's payroll at the end of December was down to 1,128, against a planned level of 1,390, according to internal company documents. Part of the reason for the "gentle" wave of redundancies was a dramatic fall in the order intake at the company in the first nine months of the year.

GE recently got rid of its only remaining major non-technology subsidiary and has declared itself in pursuit of further technology acquisitions with over \$2 billion in the order intake at the company in the first nine months of the year.

Again, according to company documentation, orders booked to the end of December were worth £25.7 million, against a target of £48.7 million for the nine months and a full year target revised down from £74 million to £56 million.

To balance that picture out, the company is known to have two major upgrades with existing customers, Abbey National Building Society and the Trustee Savings Bank Group, ready to sign. The combined value of the two orders is put at £20 million.

In addition there are five other major orders which Sperry hopes to announce within the next few months, helping to offset a tough period in the market place.

While order bookings have slid, revenues – the mix of income from sales, rentals, maintenance and other sources – has held up well at £44 million against a target of £52 million for the nine months, the company documents show.

Dr John Liddle, the president of the Sperry Univac Europe Users group, said he had experienced no deterioration in service or support.

the main cause of its woes. Sperry Univac's UK managing director Bill Read remains dedicated mainframe man.

Writing recently in *Computer Weekly*, he said that the market is here to stay. He pointed out that while the market for mainframes was growing, the market for mini-frames was growing too.

"Small computing units offer individual users considerable localised power," Read said, "but in most cases, a mainframe is needed to process and refine data so that it can be used as effective corporate tool."

It remains to be seen whether Read is right, or whether the market will drown in a tide of mini-

The race into the personal mini- and desktop processor marketplace among the big manufacturers is being won by DEC and IBM. Sperry has been reluctantly enter this market and it must be wondered if it has made the wrong decision.

It has certainly shown a high degree of vulnerability to the recession and it will be looking up to DEC and IBM to envy as DEC and IBM gear up to their projected output of over 20,000 small machines a month each.

While unwilling to comment officially on the UK figures it is leased to *Computer Weekly*, spokesman for Sperry Univac said that the measures so far taken, together with the orders expected to be announced in the next few months were adequate to put the company back on course.

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has had its funding cut from £41 million last year, and speculation is rife concerning its future role.

The new spending target was agreed at the end of 1982 and reflects the BTG's winding down of its heavy commitments to Inmos, and other high expenditure projects launched by the National Enterprise Board (NEDB) before its merger with the National Research Development Corp to form the BTG in 1981.

At the end of last year Sir Frederick Wood, chairman of the BTG, expressed concern about the future of the Group if it was no longer able to take an equity (share) stake in companies.

Of its major technological commitments only one is still in existence, Inmos, and the government

seems to be adopting a piecemeal approach to its funding until the company can attract private capital.

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# CDC bids for 'super' leadership

by George Black

VIEWDATA specialist Aregon has set up a business consultancy division. The Aregon group, which is predicting annual results of about £6 million, aims to build up a division of 15 to 20 consultants in the second quarter of the year to serve PTTs round the world and corporations closer to home.

Hilary Thomas, who will head the division, was a director of New York-based CSP International, specialising in viewdata, for seven years before joining Aregon.

Chairman John Pearce said that Aregon would be going it alone in the international PTT field, since British Telecom's withdrawal. Tie with Systems Designers, which developed the IVS-3 system for DEC PDP-11 machines and marketed it for Aregon, had now been cut, he added.

Managing director Anthony Chandor has been in the US for the last nine months setting up a distributor network. Aregon's

Revamp at Aregon aims to serve PTTs



PEARCE ... Aregon is going it alone in the international PTT field.

American agents include DEC and Dow Jones.

Banks and insurance companies

would be among major expansion areas in the coming year, said Pearce.

Data comms firms lead in US computer industry

by John Kavanagh

DATA communications firms are leading the US computer industry in growth, productivity and export success. So says a report by the US company Newton-Evans Re-

ports. The report shows that 16 companies, accounting for over 90% of US data communications equipment sales, had revenue growth of 31% in 1981. Early results for 1982 suggest even faster growth of 40% last year.

Exports accounted for 46% of sales in 1981, making the companies the most export-oriented in the computing and communications business.

Productivity in terms of revenue per employee was second only to the peripherals sector, at over \$4,000.

Many new products are expected this year as a result of a doubling of research spending at four companies in 1981.

PHILIPS

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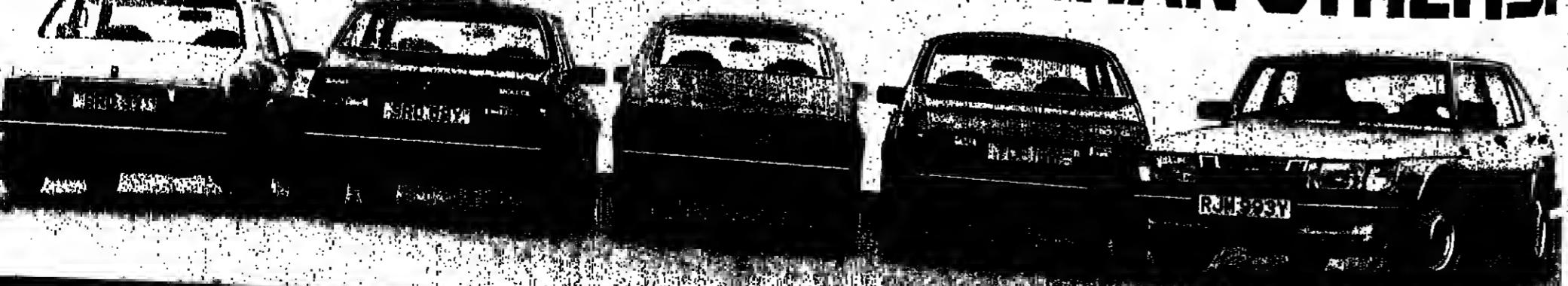
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Transfer of Scottish jobs is denied

# France to produce Sinclairs

by Jack Gee

TIMEX-FRANCE is about to begin manufacturing Sinclair computers for the United States market. It hopes to expand its workforce at a time when the Norwegian owned multinational is shedding jobs at its Scottish factory.

Bernard Beaumont, managing director of the French subsidiary, said, "There is absolutely no truth in claims that Tinex is transferring work from Scotland to France. Each country is sufficiently bedevilled with employment problems without creating new ones."

Beaumont was commenting on statements from Scottish trade unionists that, with 1,900 jobs being made redundant in Dundee, the French government was using a cash bail of 900 million francs (\$90 million) to encourage Tinex to expand its French operations.

The Tinex-France managing director said a decision to extend the product range of its plant at

Besançon, South-east France, hitherto confined to clocks and watches, was taken before the move to cut back in Dundee.

Beaumont added, "If plans go ahead according to schedule we ought to be able to create 900 new jobs over the next three years. The French government has promised financial help to the tune of 150 million francs (\$15 million) to not 900 million francs as the Scottish union is alleging."

Ken Gill, general secretary of the Amalgamated Union of Engineering Workers, Technical, Administrative and Supervisory Section, has said that developments at Dundee "illustrate the non-interventionist policy of the government, which contrasts with French policy, as well as the uncontrolled power of the multinational companies."

The union is looking to Sinclair to help boost employment in Dundee by bringing forward its plans to produce ancillary products to its computer range there.

## Survey renews attack on System 38

by Kevan Pearson  
A XEPHON user survey has put the System 38 under fire again only nine months after IBM criticised the first survey on the system, as being unrepresentative.

The latest survey, covering 66 users - three times the number in the 1982 survey - says that only 17% of the survey population state that they have not suffered performance problems. But 76% claim to have "experienced performance problems of one kind or another".

System 38 Model 5 came in for most criticism, largely because it has been the largest selling model. Fifty-one Model 5s were included in the survey.

Among the major claims are that the system is "overloaded" or "under-powered".

One user commented, "A large proportion of machine resources are devoted to running IBM software. In particular security arrangements seem to be very cumbersome."

Another gripe concerns the insufficiency of the machine's memory. There are rumours that IBM is planning to expand the maximum memory for Model 5 to eight Mbytes, which would overcome many of the present criticisms.

On the service side it emerged that hardware maintenance, education and training and documentation are all rated as "good" by the largest slice of users, and as "satisfactory" by many more.

However systems engineering support is rated from "satisfactory" to "poor".

It seems the problem is that there are not enough systems engineers fully conversant with System 38's unique systems architecture.

On the whole, it appears that many users are satisfied with IBM as a supplier and most of the criticism reflects administrative problems.

And almost half the respondents in the survey have "more or less firm plans to upgrade their CPU to a larger model within the next 12 months, or less frequently supplement it with a second machine".

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The potential problem with both types of device is the extremely low operating temperature required to produce "superconductivity".

This phenomenon will not happen until either device is cooled to minus 273 degrees Celsius, which could severely limit applications in general purpose computers.

The device, which IBM has patented, is called a Quiteron, after the superconducting phenomenon known as the quasiparticle injection tunnelling effect. It has the same performance characteristics of the transistor - that is it can amplify, invert and switch incoming signals rapidly. But it generates far less heat and so has the potential for far higher levels of circuit integration.

But one area where they may have an application is in the next generation of supercomputers being designed by Cray Research, Control Data and possibly by IBM.

Present generation supercomputers like Cray's 1S and CDC's Cyber 205 use fresh cooling, employing a liquefied mix of inert gases. Neither goes down to the temperature of liquid helium, which is needed to produce superconductivity. But the potential is there as some experts think that the supercomputer market could grow tenfold before the end of the decade.

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## Chip start-up costs tripled since 1975

THE cost of getting into high-technology semiconductor manufacture has rocketed over the past eight years, according to the Semiconductor Industry Association. The cost of setting up a micro four-inch wafer processing line (for 7,500 wafer starts) has jumped from 1975's \$10 million to \$30 million.

For more advanced processes, micro processing this cost has exceeded \$60 million by 1985, the SIA reckons.

Despite this, new IC manufacturing ventures continue to crop up, undaunted by the world recession. The SIA puts this down to the greater availability of venture capital, particularly in California. Government money helps. The SIA notes that UK government-funded Imots has received the biggest capital infusion of any start-up in the semiconductor industry.

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ACT has brought out a hardware and software Sirius-1 catalogue. It is the first full-scale listing issued by the Birmingham micro software house and distributor. It gives details of standard and Winchester Sirius, plug-in memory boards, printers, operating systems, languages and packages. Some products are described. A second edition is due to appear in March, with further editions quarterly.



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 ENGLISH INDUSTRIAL ESTATES



Inventor of the Quiteron, Sadog M. Faris, holds a wafer containing experimental samples.

## Superconducting device from IBM

by Howard Karten and Kevan Pearson

SCIENTISTS at IBM's Thomas Watson Research Laboratories in New York have discovered a new superconducting device with transistor properties.

The device, which IBM has patented, is called a Quiteron, after the superconducting phenomenon known as the quasiparticle injection tunnelling effect. It has the same performance characteristics of the transistor - that is it can amplify, invert and switch incoming signals rapidly. But it generates far less heat and so has the potential for far higher levels of circuit integration.

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# Bug in system at Logica's launch

by George Black  
LOGICA's support service was slammed by a major user last week. "We have a bug with Xenix which could cripple our production any day," Alex Riley of Plessey Office Systems complained at a commercial seminar.

"We have rung up and rung up and had no help at all. And we know of others in the same position. We just hope we're going to get better service with Unix. Xenix is a wonderful product but I can't say anything good about your support."

Logica's software products group sales manager Maurice Russoff assured him the problem would be looked into.

The exchange happened at Logica's launch of its Unix version of the Unix operating system for use on Digital Equipment's Vax mini-series.

Russoff said there had been little criticism of Microsoft's Xenix

which Logica is supporting. But an ITT delegate retorted: "Just because you don't get to hear of a bug doesn't mean it doesn't exist."

Technologists from the big corporations and academic institutions turned out in force for three seminars on Unix. Some 30 to 40 organisations were represented at the British launch of the Unix-lookalike developed by Human Computing Resources of Toronto. Logica, the £33 million turnover British software house, is to distribute and support the product, which operates concurrently with DEC's own VMS on the Vax.

"It offers co-existence between the two operating systems on the Vax," said Adrian King, of the software products group.

But he struggled to convince an expert audience that Unix would be able to give a complete Unix emulation. "And there are more rumours about IBM and Unix than I care to count at the moment."

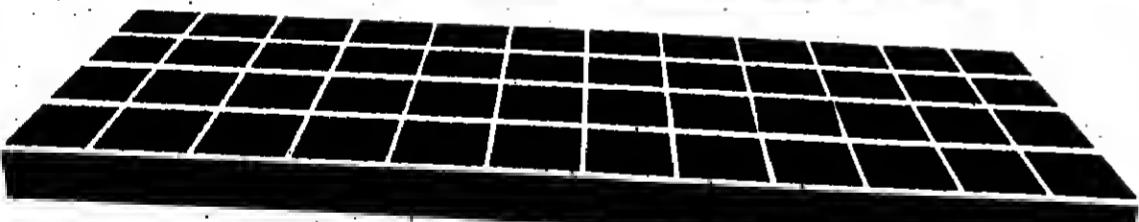
King said that at the computer exhibition in San Diego, California, there had been a staggering range of hardware now supporting Unix. "And there are more rumours about IBM and Unix than I care to count at the moment."



KING... "More rumours about IBM and Unix than I care to count".

ANNOUNCING

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## dBase II maker for UK

by George Black  
ASHTON-TATE, the \$40m Los Angeles company which developed the successful dBase package, has set up a branch. Its head, David King, aims to boost sales of the relational database management system through British distributor OEMs, as well as to found technical support staff. Third-party software will also be encouraged.

About 2,500 systems have been installed in this country to date, mainly by Entech, the largest distributor at present. But King thinks there is a market for "hundreds more". He is planning to bring out an applications update soon and to recruit a number of technical support staff. Third-party software will also be encouraged.

New products under development include Financial Planner, which Entech describes as a cross between a spreader and a micro-modeller, and Strategic, aimed at handling feasibility studies for product management and venture capitalists.

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4305 Solid state disk that accesses records in 0.3ms.  
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## Superfile goes US

SOUTHDATA, London owned the Superfile database manager, about to sign an American distributor. Established American databases may incorporate major features of the freeform Superfile DBMS when the deal is concluded, says Southdata's Peter Laurie.

He has just returned from the CPM83 exhibition in San Francisco, attended by 60,000 over three days. Talks have also been held with Digital Research, which is believed to be interested in a DBMS to bolt on to its DOS.

Southdata plans to look for French and German agents later this year. And a "C" version of Superfile is expected to be launched in April.

In preparation is an interface with the Analog Concept Learning System, developed by Professor Donald Michie at Edinburgh University. The expert system, written in Pascal, is claimed to make the database easily reducible to a set of rules.

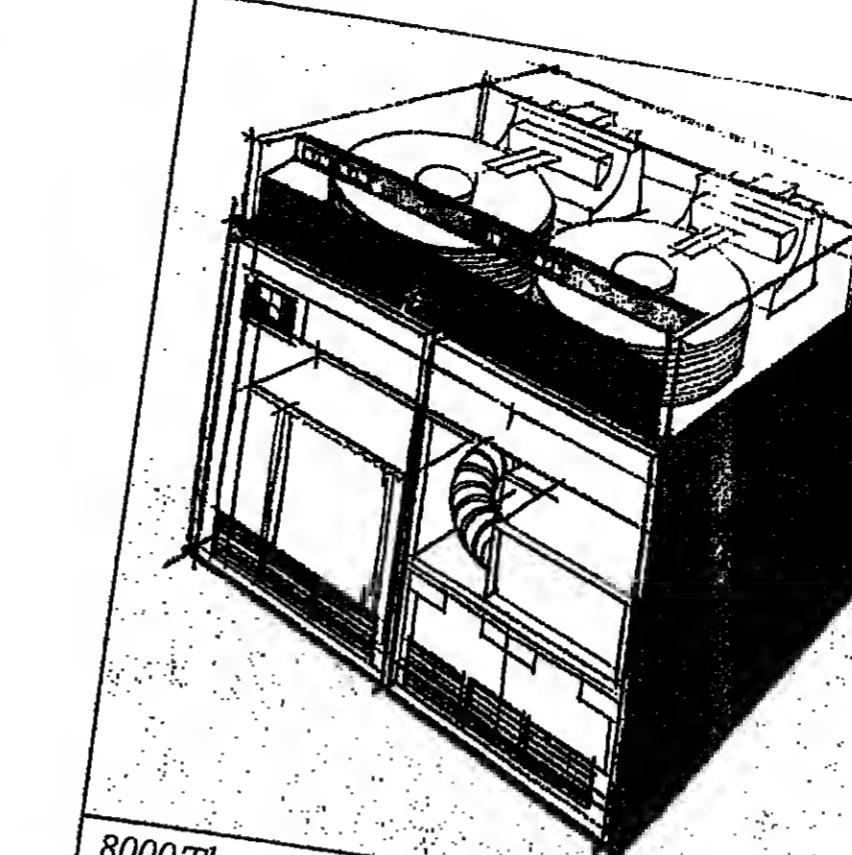
## Database snag solved

AMERICAN software house Applied Data Research claims to have cracked a problem that IBM couldn't in the updated version of its relational Datapac system.

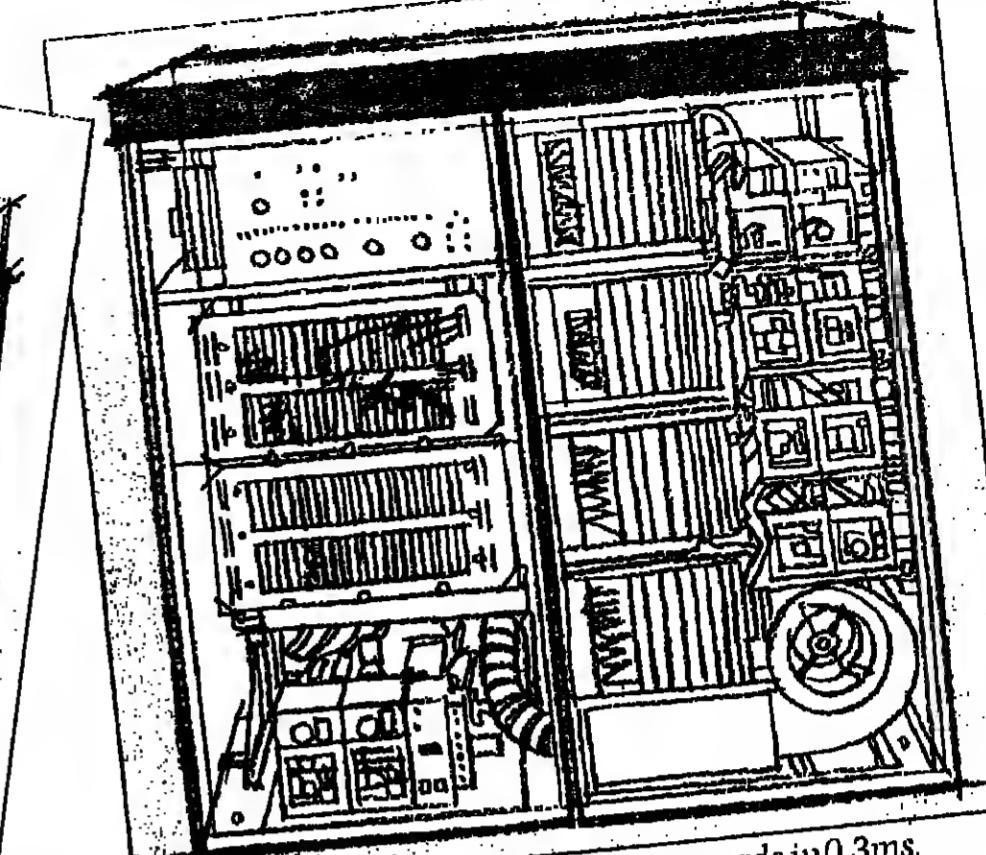
Datapac, part of the ADR Datacom/DB database system, now lets users change fields in selected records on the file. UK director Nick Pollard claims Datapac is now a realistic alternative to IBM's SQL/DS.

"Whereas SQL requires an enormous amount of storage - as much as two Mbytes - the new release of Datapac can be demonstrated to take as little as 48K on an IBM 370," he said.

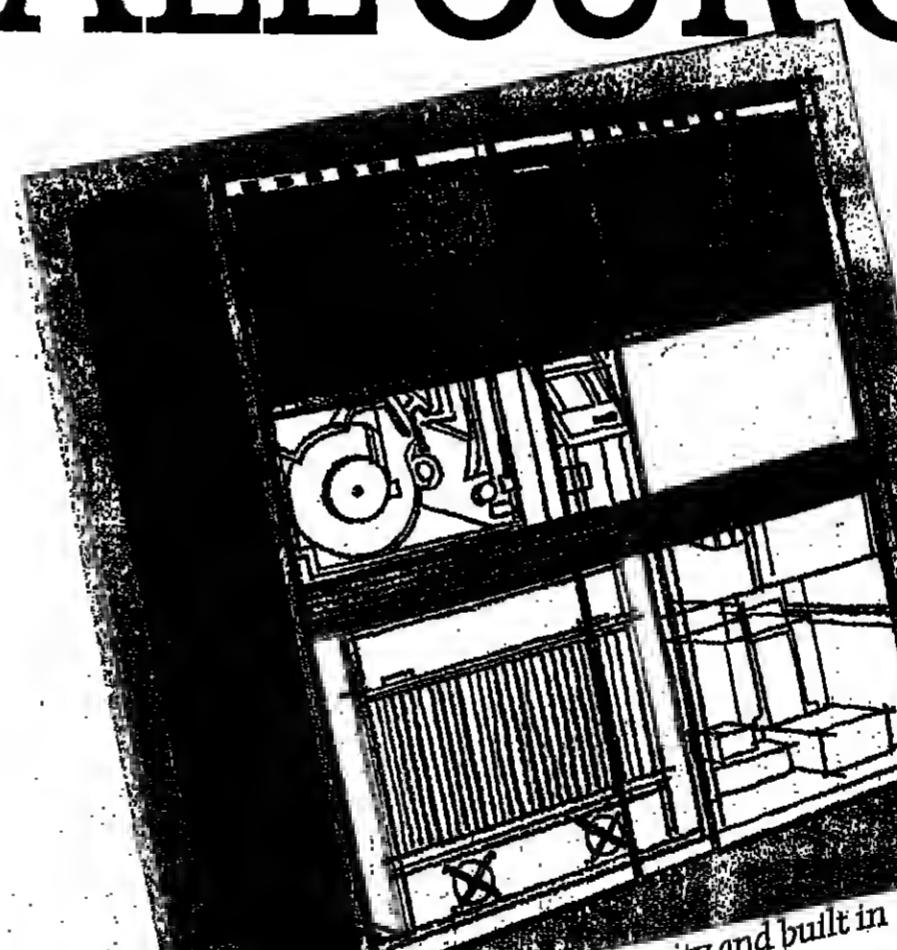
Datapac has been the focal point of ADR's range since it moved into the distributed database arena at the end of 1981. This is the third release of Datapac, a relational query system that operates in both online and batch modes.



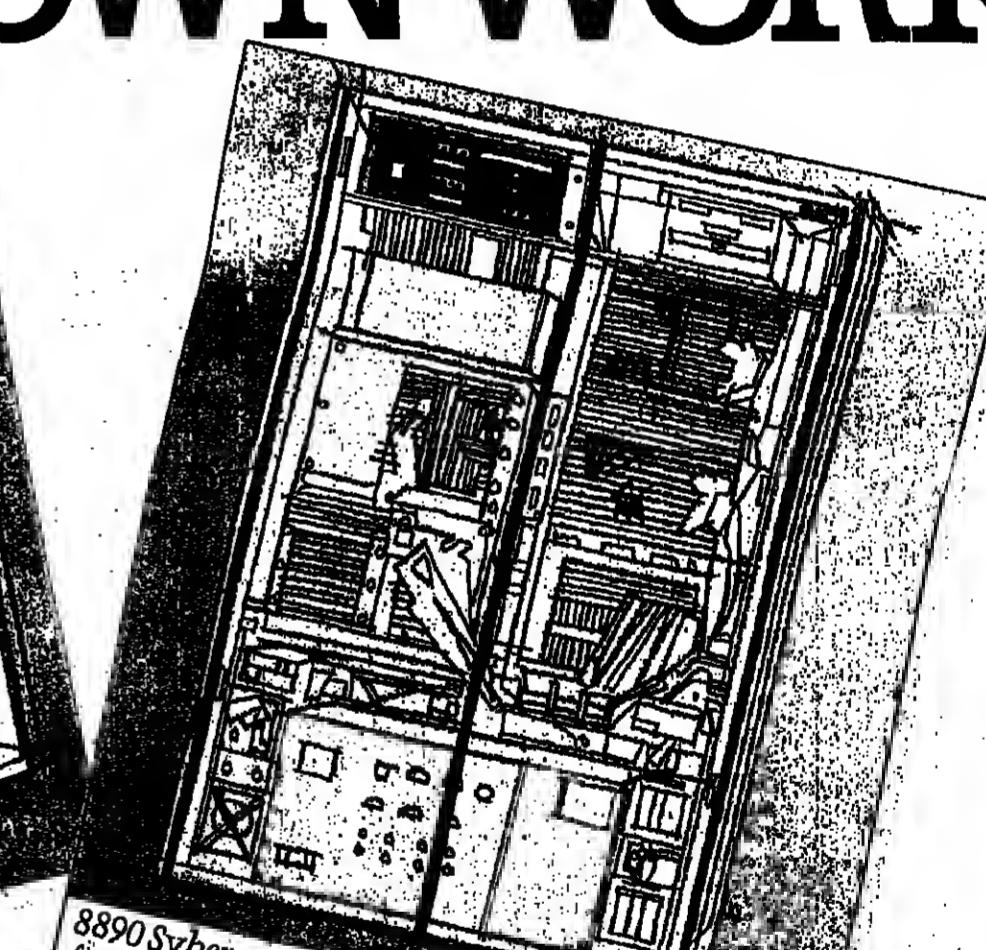
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## Burroughs sales buoyant

BURROUGHS continues to improve its overall financial position, although chairman Michael Blumenthal expressed disappointment with the company's 1982 results. Sales rose 23% to \$4.19 billion. Profits increased 11.4% to \$166 million. Memorex results are consolidated with Burroughs' for the first time since the takeover in December 1981.

"We are moderately optimistic about the outlook for 1983," said Blumenthal. Order growth was flat in the fourth quarter, he added, but had begun to strengthen in recent weeks.

## CAP 32% growth

COMMUNICATIONS-based work accounted for nearly all CAP's £7.8 million sales in the six months to October 31, with overseas business bringing in more than 16%. The growth was 32% over the same period in 1981, while profits improved by £230,000. Chairman Barney Gibbons said he was very pleased with the results, and he expected the full year's results to show "a useful improvement" over the previous year. The company said defence contracts ensured that it was up to date on advanced techniques. The use of point-of-sale devices in distributed networks offered important prospects in the retail, distribution and leisure industries, it added.

## Prime figures

UK division of Prime matched the company's overall sales growth of 19% last year. Net profits for the whole company also rose by 19% to \$44.9 million on sales of \$435.8 million. Earnings per share were \$1.48. The fourth quarter sales were also up 19% on the same period in the previous year. Profits were up only 17% to \$12.2 million, although president Joe Henson said the results exceeded the company's expectations. The year had been an extraordinary one for Prime, he said, in an environment as difficult as any for 40 years. He was cautious about the prospects for an economic recovery.

## Wang profits up

WANG's second quarter sales, to December 31, were up 34% over the previous year's second quarter to \$367.5 million. Profits went up 38% to \$34.7 million in the same period and new orders increased 40% although president Dr An Wang said performance had been adversely affected by the worldwide economic climate and the continued strengthening of the dollar. The half-year growth was 32% to \$672.6 million for sales and 38% to \$59.7 million for profits.

There are no current plans to start manufacturing in the UK.



SKAR... "Difficult year".

## Norsk into profit in the UK

NORSK DATA, currently the City's favourite foreign company, has moved into profit in the UK and increased overall profit by 60%.

The £6 million profit was better than the City expected and the share price moved to £15, which gave the £50 million turnover company an average market value of £150 million. (The market valuation is the share price multiplied by the number of shares issued.)

Norsk Data, founded in 1967, has been operating in the UK for three years, and the move into profit here is seen as a major challenge met and accomplished.

The French and German markets have proved slightly tougher for Norsk. Both are still showing a loss for the company. This is despite high exposure in Germany, where Norsk's 32-bit ND500 is widely installed in universities and research establishments, including the Max Planck Institute.

The Bristol facility, which is now beginning construction and has a team of 25 engineers already on site, is expected to be completed in the mid-1980s. The final factory will measure over 1,000,000 sq ft, and will eventually employ about 1,000 staff, according to Baldwin.

He said that because the factory was not in a development area the only grants of any significance that HP would get would be associated with it.

To improve marketing in Germany Norsk has bought a minority stake in mini manufacturer Dietz which will now sell Norsk computers via its 70 sales staff.

In the face of the recession German companies have grown strongly nationalistic in their purchasing policies, with many foreign companies, including DEC and ICL, finding the going rough.

Industry analyst Peter Roe of brokers Hoare Govett, forecasts a significant increase in turnover for Norsk in the German market and a major improvement in profitability there.

The sales figure for the UK is not available but Norsk has created over 100 jobs in the UK and established its European marketing headquarters at Newbury, Berkshire.

There are no current plans to start manufacturing in the UK.

# Booming HP offers 1,000 jobs

FOR £22 million we will bring up to 1,000 jobs to Bristol," was the promise made by Hewlett-Packard UK managing director David Baldwin when he presented the accounts for the UK subsidiary of the fourth largest American computer company.

Hewlett-Packard UK exported about £27 million worth of product — not a particularly large volume by the standards of other computer companies and a further reflection of the popularity of HP's products in the UK's own marketplace.

Sales in the UK were £168 million compared with £118.9 million in 1981. Despite the problems of the rising dollar and sliding pound, the profit also rose by 10% to £13.1 million from £11.9 million.

This sparkling performance has encouraged the company to extend the Queenferry, Scotland, plant by 10,000 sq ft; to open a new head office at Pinewood, Berks, and to begin work on the 165-acre site at Yate, near Bristol.

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MELCHOR... Dissatisfied with UK tax rules.

## Melchor steps down as capital funds merge

IN A tacit admission of the difficulties facing American venture capitalists in the UK, Jack Melchor has stepped into the background for the TI Professional Computer outside the US, "and it is not really sensible to go to this sort of market with a different architecture. It is driven by the available software."

So far Rainford and the American Fund, both of which are mainly American investors, have just upgraded its Business System 200 and 600 ranges by putting in the faster 99000 processor in place of the 9900 previously used, and has used the 9995 in its new home computer, the TI 99/2.

The system, known as Scald, comes from a two-year-old California company, Valid Logic Systems. It has established itself in Slough, under the tutelage of European vice-president and general manager Tom Lawrence, and has appointed a network of European distributors to handle the system. Among Valid's first customers is Digital Equipment, and the company hopes to top \$10 million worth of business this year.

The BTG has indicated it will merge funds with that of additional investments, possibly in the form of a sub-subsidiary.

The timing is likely to be the emergence of a new wave of independent software houses putting out packages for this market. Peachtree, VLSI Corp, Micropro and Microsoft are all there now, along with many other US companies.

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# Big game hunting in right places pays off

THE fastest way to come down a mountain is to ski from the top. The fastest way to snowy mountain tops is by helicopter — that's how Ted Priem, soon to be president of US software company Comserve, does it.

It helps, he says, if you keep your ankles in trim during the summer by skiing behind a 400 horsepower motorboat.

And it helps even more if you live on the shores of Lake Minnetonka and can do a 7.30am start at the company.

To add to the picture of high-powered American success, Priem also likes big game hunting.

His staff point out that there is often a dual interest in Priem's pursuit of the elk and the moose. Faced with a choice of three places to go on safari last year, Priem chose South Africa. He came back with a key agent in the bag, now doing £200,000 per annum worth of business.

"It pays," Priem says, "to go big game hunting in the right places".

There is, however, a lighter side to Priem though it's occasionally hard to make him reveal it. He is a

founder of Comserve, and he remembers when all that stood between the company and the bailiffs was his next unsigned order.

Not a few UK software companies will sympathise with Priem when he says there was no period as thrilling for him as when he went on the road knowing that no contract was coming back in the bag meant no pay. If he now epitomises the American dream and the rewards of success, he has not forgotten the cliffhangers.

"I remember once being in a car, far from home base and getting a call from the office manager to say there was no money to pay the payroll. With nothing but a contract we persuaded the bank to accept 80% of our accounts receivable for the contract. Their previous limit was 50%.

"The worst years for Comserve were the worst years for most people. 1969 to 1972 was the toughest time. A lot of good companies went to the wall that year," Priem says. Prior to joining Comserve in 1969, Priem had been with NCR. "I got out," he says, "because in those days NCR was run by a lot of people with cash register mentality. Those of us who wanted to

be real DP professionals felt we had to leave."

When he joined Comserve it was still a service bureau running a few general packages, and doing one-off jobs for customers. One of the reasons for their success, Priem says, is that they got into general packaged software early. There were not many people doing real general purpose packages back in the early seventies. Comserve specialised in bill of material and production and inventory management systems.

A key element of this was the inventory control concept pioneered by Priem as MRP, or Minimum Requirement Planning.

Comserve developed its software around this theory of statistical estimation of minimum stock levels.

The company now has revenues of \$25 million. By next year Priem expects the figure to increase by 50%.

Priem says higher revenues will enable him to accelerate growth by acquiring other companies in "complementary fields".

He has UK companies very much in mind noting that it took years to hit \$3 million sales in the US, while it has taken a year in the UK.

PRIEM ... Came back from safari with a key agent in the bag.

## DOWNTIME

### The unfriendly system

THERE is hardly a computer system in the world that has not been described as user friendly by its makers. But the system in use by a 'Portsmouth' company, Westerly Yachts, can only be described as user hostile, as correspondent Brian Dagnall informs me.

He wrote to the company asking for his name to be removed from its mailing list, and completed a pre-paid postcard to the effect.

The company wrote back saying

that this could not be done because Dagnall was listed under a computer code number essential for all amendments to records.

His name could not therefore be erased until he returned intact the next piece of mail received from them, presumably the letter containing this same request. This had to be done because the mysterious code number appears on the envelope and nowhere else, it seems.

A nappy to whoever designed this system!



### Say what you mean!

THE habit of referring to Europe and meaning Continental Europe is the kind of imprecision that can cause broken friendships among sensitive nationalists. Put into writing, however, it could end up costing money.

It is worth avoiding this kind of looseness when it comes to drafting a contract with a trading partner, or pain of signing away more than you intend.

In case you are wondering what brought on this mild sermon, it comes to you as a result of the chuckle Vector International's managing director Gabor Weiner enjoyed when he noticed that a recently signed contract gave his company exclusive European marketing rights to Micro Focus CIS Cobol — although presumably the latter intended to hold on to its home territory in the UK.

Weiner says his company will be following what he regards as the spirit of the contract, rather than its letter.

## 10 YEARS AGO

FROM COMPUTER WEEKLY OF FEBRUARY 8, 1973: Honeywell introduced its Multicentral access package to the UK... Following ICL Datastar, Altera decided not to renew its membership of the Software Houses Association... NCR opened its fifth UK data centre, in Manchester... IBM doubled the maximum memory sizes of the 145, 158 and 168 systems.



## PLATFORM

# Computer Weekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, February 10, 1983

## Is Lisa too pricey?

IN counterpart to the noisy proceedings at the Lisa was the silence from the announcement of the sterling equivalent of plus travelling expenses.

With the pound at a gnomes tremendous, that is to something like £7,000 — anyone's money for what essentially a personal or Has Apple blown Lisa's then?

Some of the more cynical thought not. "No one has ever asked what the market will be," Keith Hall, managing director, who had the rugger-playing sales director incarnation at Comdex, marketing mafioso.

The existence of a market sort of price level is certainly doubt. Xerox has done that by selling every 8000 — the only price of it is remotely comparable to £11,000 each.

Rumour, that of Hall, has it that Lisa's target price was £9,500 before the gnomes weighed sterling tumbled. There has to have been a genuine element on price, with a sources close to the company, headquarters in the distinct schools of thought favouring a "low" price of £8,000, mark with a maximising the company's image in being first. A sensible is said to have carried a price tag on the basis that would generate the revenue, given the last supply problems during the year.

In the event, Apple executive, Mike Mark, seemed to have split difference.

The unknown factor is price equation is Michael's little brother.

Like Lisa, Macintosh is

on the Motorola 68000 processor.

Lisa should run much the same. But will it? Like Lisa's software has grown more than a gbyte of memory in all. The ability of marketing a new version of Lisa year on a window more than a year, hence the presence of the relatively boxed. Profile the same hard disc. Profile the same ten years now arises with Lisa's

One theory now current

Apple watchers propose

as an artificial high price

Lisa, simply in order to

market separation from

to tool.

All this speculation —

the assumption that

overpriced. But is it? In

may, it is hard to put the

68000-based system with

graphics, a megabyte of

and half a dozen of 30 megabytes

packages and still find

much change from £12,000

what price user friendliness?

Lisa may not be within

everyone's pocket, but it

looks like good value to me.

Julian

Chad

## 1984 and all that...

THIS week's example of the strange things people say about computers was sent in by D. W. Parc of Coventry, who wins £5. Traditional software programming is likely to be replaced by floppy discs, which can be written by people anywhere.

Sunday Times Business News

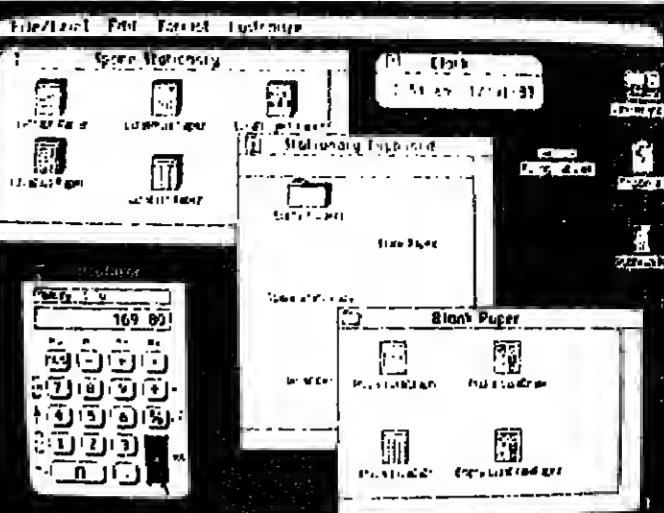
## LETTERS

If only the system could spell...

IT is a pity that Apple stands to lose all if its Lisa fails (CW, January 27) since I for one will not have much faith in a company which releases to the Press a picture of its new "desktop" with a reflected spelling error for all readers to see.

I will be afraid that the "success" may be "stationery" as well and will not move the pointer.

C. H. BEAZER  
Royal Life Insurance  
Liverpool



## Repunits

THIS "Puzzler" (CW, January 20) provides a most interesting excursion into the theory of Repunits. Given any prime, p, there exists a "magic integer", m, such that the product  $p \cdot m^p$  yields a sequence of Xs for an arbitrary digit X.

This requires that the Repunit  $R_p = 111 \dots 1 = (10^p - 1)/9$  be divisible by p; the quotient must be a reflected spelling error for all readers to see.

The table below exhibits those magic numbers  $\leq 10^3$  for  $p < 100$ .

It is clear from this table — and its omissions — that problems related to the factorisation of repunits provide ideal bench marks for general number length integer arithmetic routines eg, Lisp on the DEC 20/60.

M. R. MUDGE  
University of Aston

p	n	m <sub>p</sub>	p	n	m <sub>p</sub>
3	3	37	43	21	2583979328165374677
7	6	15873	59	58	56 digits
11	2	1	61	60	58 digits
13	6	8547	67	33	31 digits
17	16	6535947124183	71	35	33 digits
19	18	5847953216374269	73	8	152207
23	22	48309178743961352657	79	13	1406497609
29	28	26 digits	83	41	39 digits
31	15	3584229590681	89	44	42 digits
37	3	3	97	96	94 digits
41	5	271			

Table exhibits magic numbers. See "Repunits".

## Gary — a masterly footballer

GARY the Sharp Shooter (Which Computer? Show feature, CW, January 13) would be picking one or two balls out of the net as well. He is not reading from a computer science degree but has applied to UMIST for a part-time MSc in civil and structural engineering.

TIM YATES  
Director of Communications  
UMIST

The Editor welcomes letters commenting on subjects published in Computer Weekly, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.

Even Industry Minister Norman Lamont, commenting on DEC's plans, conceded that there would be a shortage of the right skills.

And Warren Werblow at Scicon spoke of French government plans to spend almost £14,000 million — more than a fifth of the total national budget — on a five-year plan for the electronics industry. This is at a time when the UK government is mulling over whether to spend £260 million on supporting research in vital areas of the information technology industry, as identified by its own Department of Industry's Alvey Committee.

The government is to be congratulated on getting firms like DEC and Hewlett Packard to invest in the UK to such an extent — even if the main attraction is the raw materials, the software skills we keep hearing about.

But as Werblow says, it is now time for the government to look more closely at the home-grown industry and put proper support into university courses, product development and export effort. It is hoped that the response to the Alvey report from the influential National Economic Development Office will act as a spur (see page 3).

The UK has enjoyed the praise for a long time. It is now time to put the highly regarded skills to good use.

## A clear example

CLARITY of expression is not a characteristic for which accountants are noted. And the law, which so many frequently confuse with the idea of justice, is of little help when it comes to forcing companies and their auditors to present annual accounts which make some kind of sense to the intelligent layman.

The worst offenders in this respect are generally the multinationals, and it is a welcome change to find one which treats both the employees involved in its UK operations, and the general public, with the respect they deserve by producing a decent set of UK subsidiary accounts.

The company concerned is Hewlett Packard, and the accounts offered last week were every bit as clear, and as well illustrated as those of the parent company in the US.

So to Hewlett Packard, among the multinationals operating in the UK, full marks for effort.

As to clarity, the presentation of the accounts was as good if not better than many produced by similar sized companies in the UK.

Having said that, it is worth noting that the accounts do not show how much by way of grants and government inducements H-P received from the UK taxpayer.

And while the accounts show that H-P upped its exports from £20 million to £27 million, they do not show which way the balance lay in terms of imports by the company.

Having had our little carp, however, it remains to invite the otherwise impeccably correct IBM to follow suit and produce some decent UK accounts.

A well illustrated, detailed set of accounts, such as H-P has produced, would cost a fraction of the money IBM spends on public relations and go a long way to prove real interest in genuinely informing the UK public about its operations.

Lombard believe in people doing what they do best.

We realise that controlling increasingly tighter budgets is becoming an ever more demanding and exacting science.

Accurate forecasting together with the need to release valuable capital requires the right choice of funding options.

051 374 744





# Microimage terminal launch by Kodak

THE UK launch of the latest in its range of intelligent microimage terminals, the IMT-50, is announced by Kodak.

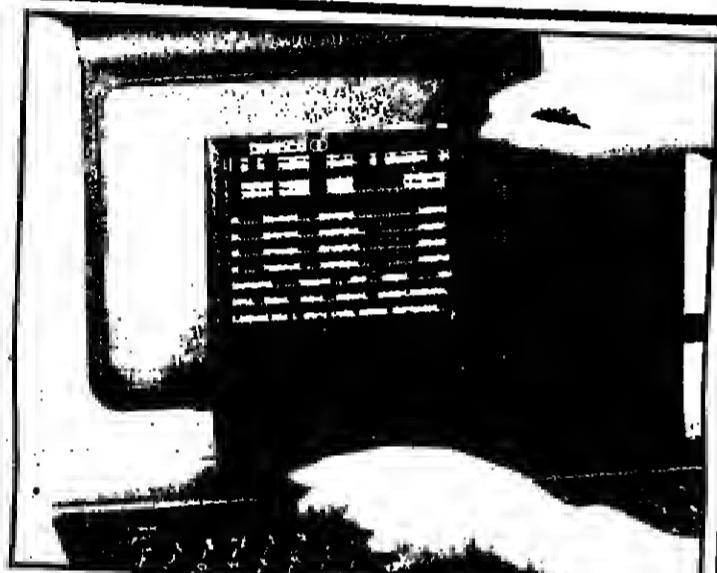
This terminal provides automated retrieval under microprocessor control for use in installations where computer assisted retrieval is required but the additional sophistication of interfaced online access to a mainframe computer is not essential. The resulting installation provides a lower cost alternative to the full online system which will continue to be available in the form of the Kodak IMT-150 microimage terminal.

The new terminal offers 17 different search programs and is capable of two-level searches - "block and batch" or "batch and item." As a result it can accommodate a wide range of filing routines. Eight high-quality lenses are available, ranging in magnification from 16X to 47X.

To use the microimage terminal,



The Kodak IMT-50 microimage terminal.



The new Polaroid filter from Immac.

## Filter cuts VDU glare

GLARE on a VDU screen is one of the quickest causes of fatigue. This presents a major problem for users, so special glare filters were developed to reduce the glare and enhance the contrast. These are now available through Immac, under the name Glare Sentries, for general use on a wide range of computer systems.

The principle is that the circular polariser (manufactured by Polaroid) is made up of two layers. The top layer is a polarising filter and the second layer rotates the plane of the new polarised light by 45°. When it is reflected and tries to re-

emerge, it is again rotated by 45° giving a total twist of 90°. The polarising filter will then absorb the glare. On the other hand, light from the display only passes through the filter once and emerges clearly with improved contrast.

The Glare Sentry filters mount easily onto VDU screens with adhesive strip. They are available for all popular makes of VDUs such as the DEC VT100 and cost £95.

Immac UK (CW), Astmoor Industrial Estate, Runcorn, Cheshire WA7 1QF. Tel: (0928) 67551/2/3.

## Jaguar adds Telepac node

### System 34 screen prints

THE Telepac X25 packet switching node is the latest product in the range from Jaguar Communications.

Designed and built in the UK, the Telepac enables users to build a medium-scale communications network, fully compatible with CCITT X25 Level 3 standard. Jaguar says this compatibility benefits the user by enabling his existing equipment to accept calls from and make calls to PSS/LPSS.

The Telepac has eight synchronous ports, any of which may be configured either for X25 use or for the link protocol of the Codex 600 series of statistical multiplexors. The user is thus able to build a cost-effective network, combining asynchronous terminals and computer ports.

Jaguar Communications (CW), Elton House, London Road, St Albans, Herts AL1 4JL. Tel: (01) 621 0341.

In addition to the former interface, the 2220 is supplied, as standard, with a 1200 baud feed which makes it an ideal device for point of sale applications producing 44 invoices, statements, etc.

Enclosed is £..... to cover the entry fees for the team(s). Cheques should be made payable to Computastars Ltd.

In all matters relating to the rules or conditions of entry, the decision of the organisers is final. Please send entry form and fees to Computastars, 117b High Street, Croydon CR0 1QG. Telephone 01-621 6690.

## Alternative to keyboard data entry

WEIGO Computers of Caterham has launched a card reader. The 2000 series are optical machines, which provide the computer system with an alternative to the keyboard entry of data. Cards are marked with a pencil, pen or punched, then inserted into the machine hopper for entry to the computer. The reader may also read pre-printed data.

Three versions of the machine are available: the 2000/RS232 for use with any system with an RS232 input port, the 2000/Apple which has been designed for use with the Apple II, supplied with an interface that fits inside the Apple, and the 2000/Per with a connector to the user port of the PET.

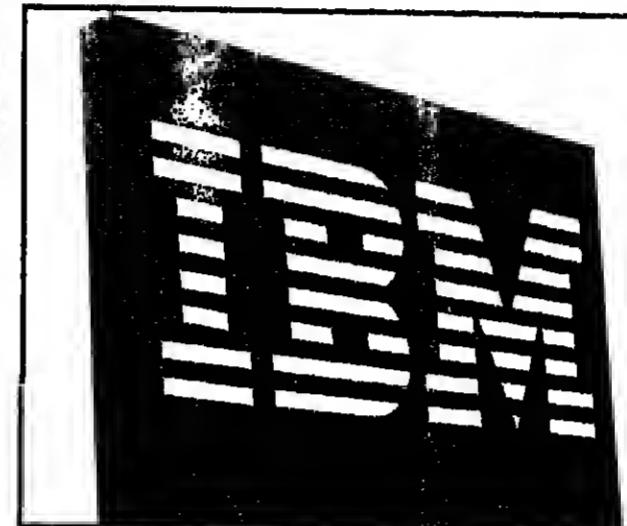
The machine has a hopper capacity of about 120 cards, with a maximum speed of 56 cards per minute. A continuous demand feature allows the card reader to feed automatically once the data from the previous card has been transmitted out to the computer. The price is £1,295 + VAT.

Weigo Computers, (CW), 22a High Street, Caterham, Surrey. Tel: (0883) 49235.

# SOFTWARE MONTH

'Modern computer buyers are beginning to demand a system that can be bought, plugged-in and played as simply as a hi-fi'

## Users are plugging in to hi-fi phenomenon



FOR the past 20 years, two major characteristics have dominated the history of computing: falling costs and rising power. The effect has been an almost complete reversal of the attitudes held by the major suppliers towards the two products of hardware and software.

In the beginning, because of the all-consuming cost of the hardware itself, manufacturers concentrated more on producing the machine than on the wherewithal to use it. But now, more and more customers are able to use more and more power, and software has become an integral part of computer marketing.

The growing importance of software as a trend is visible throughout the major manufacturers. In the UK, ICL has made a complete reversal, from ignoring software suppliers to courting them. In smaller systems, Digital Equipment has released a range of personal computers built around the concept of software availability; half of them can access the enormous pool of CP/M software, while the other half can make use of existing PDP/11 software.

And IBM is no exception. Recent years have seen a spate of improved products, ranging from SSX/VSE and SQL/DS to vastly improved versions of CICS.

Some commentators suggest that IBM is beginning to set its sights to a new and wider market, and that in doing so, it will wage war on the numerous third party software suppliers.

Liam McKenna, IBM UK software product manager, sees it differently. He points to the increasing difference in the power to price ratio within modern comput-

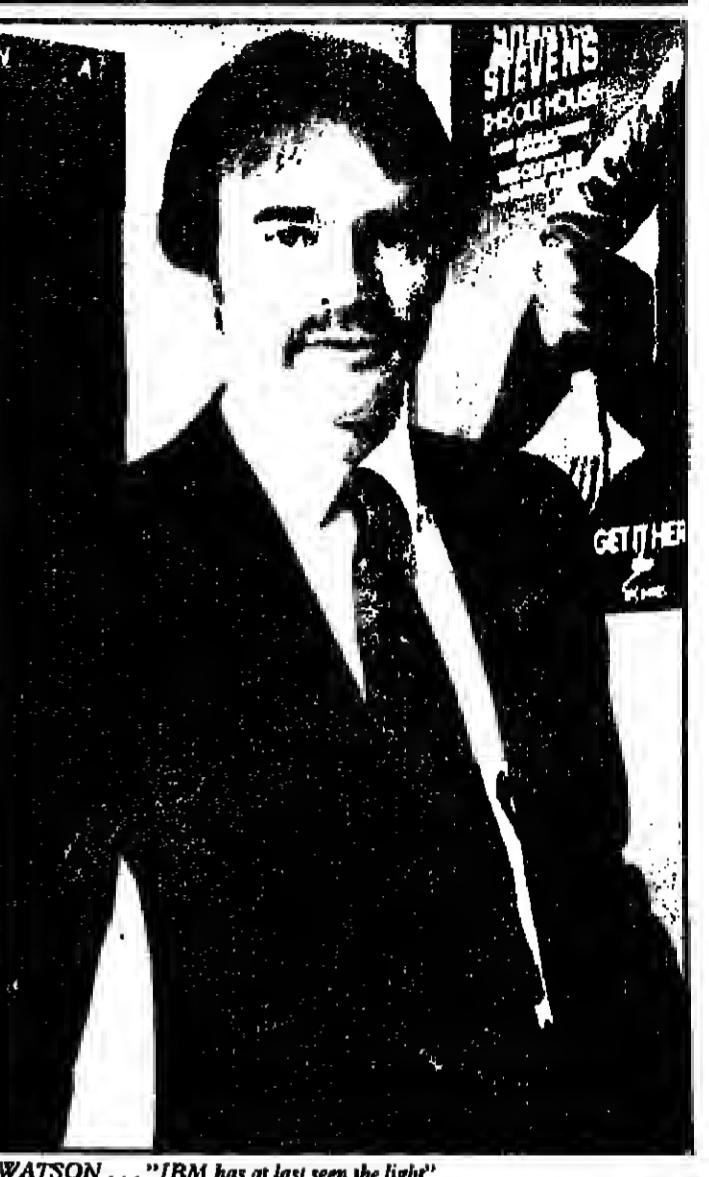
ing and suggests that IBM is not so much seeking a wider market as responding to the demands of a growing market.

"As computing power gets cheaper," he says, "new and smaller companies are now buying what, a few years ago, we would have sold to a larger company. These new customers have different requirements from our earlier customers - they can't afford to fund the massive programming schedules demanded by the earlier mainframes."

In many cases today, it is the businessman who buys - and uses - the computer. Small Systems Executive (SSE) is IBM's provision of an easy software route for the new style of customer that is now looking for computer solutions to business problems."

It is, in fact, another example of what has been described as the "hi-fi phenomenon" - modern computer buyers are beginning to demand a system that can be bought, plugged-in, and played as simply as a hi-fi system.

■ Turn to page 24



WATSON... "IBM has at last seen the light".

The future of computing lies in the use of multiple computers co-operating in problem solving.

The Science and Engineering Research Council has supported a major research programme in this area. The research has borne fruit.

To help ensure this research is put to use, the SERC is sponsoring an industrial conference - a meeting between researchers and industry - presenting

present research results in the context of a more general review of distributed computing issues.

These include sessions on the Future of Local Networking, New Architectures and the Fifth Generation.

★ Multiprocessor Implementation and Applications.

Speakers include both leading researchers and industrialists already closely involved.

# The SERC invites...

TECHNICAL DECISION-MAKERS IN INDUSTRY

## DISTRIBUTED COMPUTING

A Review for Industry

National Computing Centre, Manchester  
3/4 March 1983

An SERC-sponsored conference.  
Registration: £57.50 inc. VAT

Information/Registration: SERC/DCS Industrial Co-ordinator  
64 Newman St, London W1A 4SE Tel: 01-636 5440



Plugging in to hi-fi phenomenon - From page 23

## 'Thousand monkeys approach creeping in'

GODMAN . . . "Recent releases show thousand monkeys approach".

SSX/VSE (SMSI Systems Executive/VSE) was announced by IBM in November 1981. It is an operating system that goes further along the conceptual route begun by the S/100/E, which were themselves self-documentary systems modules that attempted to allow inexperienced users to install a DOS/VSE system. If S/100/E failed, SSX, to a certain extent at least, succeeds. It is a system that can be installed quickly by unskilled personnel, and is indeed aimed primarily at the stand-alone user with limited skills.

According to McKenna, it is an example of IBM "driving down an 'ease of use' route; SSX uses simple methods to achieve complicated results".

This "ease of use" is largely achieved by limiting the generation options and improving user aids. For example, no JCL knowledge at all is required. Further, operator control is made

simpler by using VSE/OCF to intercept system messages in order to suppress some, to answer others, and to translate many of the remainder into something more meaningful.

The applications package to sit on top of SSX may come from IBM or a third party supplier. One such product is MSA's SSX/System 43 suite of nine accounting packages.

MSA is one of the world's largest independent applications software companies, modestly claiming to be "in step with IBM. And ahead of the rest".

Since 1965, the company has installed over 6,500 packages in over 4,000 customer sites. Now it sees SSX as an important step forward for both IBM and itself.

Graeme Watson, a systems consultant with MSA (Management Science America) explains the reasoning: "Despite being comprehensive and fairly robust, IBM

mainframe operating software has long been viewed as unnecessarily complicated and unfriendly.

Armed with systems programmers, JCL writers, data controllers and the like, have been kept busy for the past 15 or so years persuading the operating software to drive the hardware in the required way. And this single requirement for high calibre, well paid and often scarce DP professionals is surely a primary cause for the disillusionment of many potential new customers from joining the IBM family of users.

"Now, however, it seems as if IBM has at last seen the light with its development and release of SSX," he concluded, "that IBM has got it right with SSX, and that only

grow from 4321 to 4331 any software company."

Watson believes that the way forward for IBM, and extends that "DOS is dead; live SSX!"

Release 2, announced in October 1982 and due for release month will extend the system in areas of host support, networking and so on.

"The most significant feature," says Watson, "is to turn out to be the ability to run SSX under VM. Indeed, he concluded, "that IBM has got it right with SSX, and that only

the introduction of applications packages to run on CICS rather than its alternatives: the force of economic reason. Because the majority of users already use CICS, the majority of new applications packages will perform better primarily for CICS. And because the majority of applications packages are and will be written for CICS, new users will have an even greater incentive to choose the IBM monitor over its rivals.

Once this process starts, and it is already clearly well under way, the CICS alternatives will be faced with an increasingly difficult and uphill struggle.

"They are competing at too low a level," declares Liam McKenna, IBM UK software products marketing manager.

The bugs that appeared in the early 360 versions, which he readily admits were "horrible", have long since been eliminated. "Since 1975," he continues, "we have sought to stress that CICS, and IMS, are the true interfaces to IBM systems. The real area for competition with IBM is not here but in the applications software to run on top of CICS."

This is a view shared by Cliff Smith, director of sales with Computer Associates, a leading US IBM software company (whose latest product, the CA-Scheduler,

is designed to take the philosophy of S/100 - IBM's Systems Installation Productivity Option - one step further. In 1979, when DOS/VSE first arrived on the 4300 series, many users found that they still needed systems expertise despite the S/100 approach. Xephon Technology Transfer, a leading IBM consultancy, reported: "It is not true, however - as some over-enthusiastic IBM DPD sales engineers implied soon after the DOS/VSE announcement - that S/100 would allow someone with no experience to install DOS/VSE systems."

"But now DOS/VSE has been further refined into SSX/VSE, and this time, according to IBM, the implementation really can be achieved without a systems programmer - and in less than two hours!"

SSX/VSE (Release 1) was first shipped in May 1982. Its major objective was to provide a self-contained, and pre-generated, VSE operating system for the 4321 and 4331 systems, in both stand-alone and distributed data processing environments; that is, altogether easy to install, easy to use, and, above all, stable.

To date, Synapse has experienced little demand for SSX, having spent a lot of time in setting up for SSX. Cliff Smith, director of sales for Synapse Computer Services, says: "We are not prepared for SSX. Our customers expressed interest but were put off by the restrictions imposed. The idea of vacuum created by a rapid expansion in the number of computer installations caused by the hardware seems to be very low."

Perhaps, then, the best of all is yet to come, and will be released only when more software companies join MSA. In the production of SSX-based applications software, the CA-Scheduler for DOS/VSE remains the main alternative.

According to Godman, "it is still the best value-for-money operating system on IBM mainframes, and one of the most user-friendly systems to work on." It may be because VM is not an operating system, in that it does not supervise units of work. It does do is to allow multiple operating systems to manage different resources on a single machine. It operates by simulating the hardware (the Virtual Machine), so that each operating system thinks it is running on its own machine. The inevitable result of running another operating system under VM is increased overheads.

The stability is necessary because IBM does not intend to provide regular updates. Any problems are fixed by object module replacement for items such as prompts, or by a complete SSX replacement for other components.

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our already proven Unipersonnel package, it's on-line and user-controlled, and interface not only with Unipay (our own payroll package), but with any other software you may be operating.

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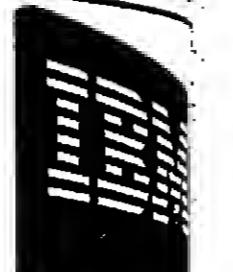
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## SOFTWARE MONTH

# Improved CICS scares third party suppliers



CICS (Customer Information Control System) is IBM's mainline TP monitor. Its appalling early track record led to the rapid development of third party competitive software, and indeed many an IBM software house owes its very existence to the poor quality of such early IBM software.

In recent years, however, CICS has been improved to such an extent that some third party suppliers fear that they are slowly being squeezed out by IBM. This may be true.

"They are competing at too low a level," declares Liam McKenna, IBM UK software products marketing manager.

The bugs that appeared in the early 360 versions, which he readily admits were "horrible", have long since been eliminated. "Since 1975," he continues, "we have sought to stress that CICS, and IMS, are the true interfaces to IBM systems. The real area for competition with IBM is not here but in the applications software to run on top of CICS."

This is a view shared by Cliff Smith, director of sales with Computer Associates, a leading US IBM software company (whose latest product, the CA-Scheduler,



IBM wants no rival database systems in its big installations.

perhaps because of this, some advanced structural capabilities. Also from Cullinane is what is claimed to be an advanced data dictionary, and a query language called English that attaches to IDMS.

Finally, Adabas is the newest of the three, and leans more towards a relational approach than any of its rivals. It, too, can combine with a data dictionary, but there is as yet no specific query language. In

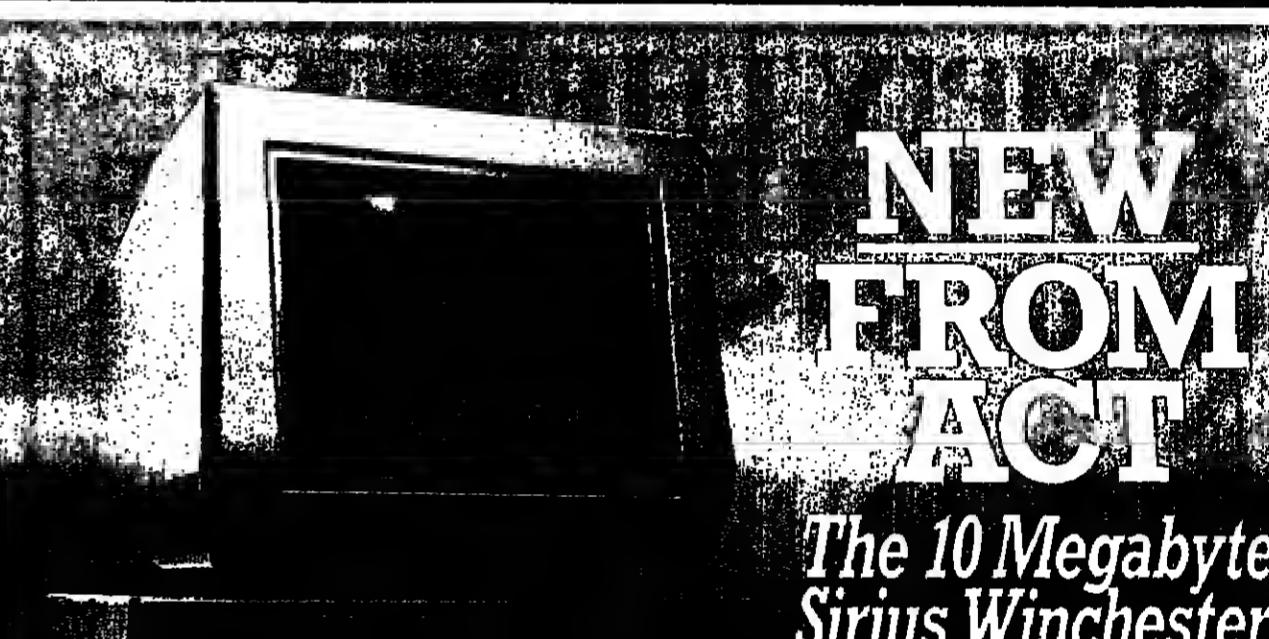
stead, a fairly high level programming language called Natural can be used for the more simple ad hoc database enquiries.

But for the future, McKenna is quite definite in his views. To begin with, he virtually dismisses alternative DBMSs, which is unsurprising for the representative of a major company that has always viewed rivalry, especially in the database area, with particular distaste.

Of IBM's own offerings, he says, "VSAM is not an alternative in IBM's future database developments. VSAM is not a data base. It is, for example, the only disk access method to support the DL/I database management system."

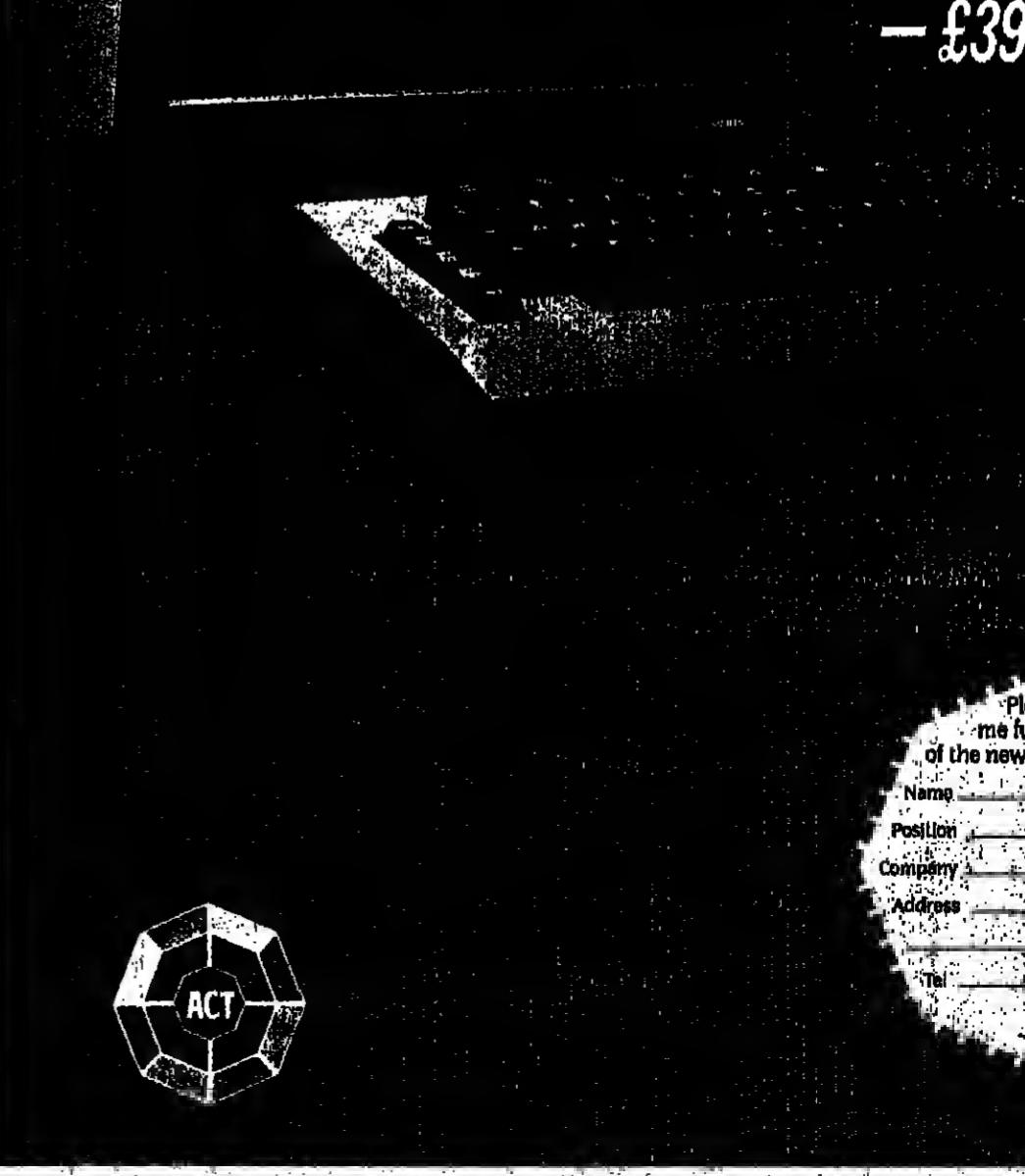
"DL/I", continued McKenna, "is our recommended database for DOS users, and IMS is our recommended product for MVS users."

"To summarise, in the combined area of TP and DB, we would recommend that DOS users employ CICS and DL/I, and that MVS users employ either CICS or IMS/DB, or IMS/DC."



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# DP departments must prepare now for the PC

OVER the last month, I have been evaluating the IBM Personal Computer, and looking at how it is likely to be used in the corporate environment. One thing is certain - DP departments had better start preparing now. Users need a lot of support. Today, this is provided by importers such as Ferrari Software and Electronic Office Services, but before long, DP will probably have to take over the task.

## SOFTSELL

The first thing I looked at was how the PC will be used within corporations. Most of the literature provides a lot of detailed technical information, such as its use of the Intel 8088 chip, and how the basic supports 200 by 640 pixel high-resolution graphics. Clearly, you can't draw many useful business conclusions from this sort of data.

For the next year or two, the main corporate applications will be few, and fortunately comparatively simple. Bob Woodland, chairman of Feltham-based Ferrari, explains: "In order of popularity, they're spread sheets and word processors, followed by personal database systems, business graphics, and then communications - especially 3270 and Async terminal emulation, and batch transfer of text and data between micros or micro and mainframe.

There are a couple of surprises regarding what people won't be much interested in doing. In particular, programming is not of great interest. Also use of traditional accounting applications, such as those provided by Peachtree, Taba, and Systematics International, will be very limited in large corporations.

Much of the software needed is already in place, provided either by IBM or from third parties. Software is taking longer (see Figure 1). Unfortunately, in their frantic hurry to release PC packages, vendors are severely compromising their QA standards. Bugs, poor and confusing documentation, and unnecessary difficulty in use, are the order of the day.

Woodland correctly points out that such problems, however, are common for a new machine, and that the passage of time will cure them. But certain other problems will not go away.

### Professional computer staff are

and will be needed to provide the

solutions.

Don't suppose that because the PC is a personal computer, it can be installed by the users themselves. You need a lot of technical know-how to do this, as shown below in "Concepts and know-how."

Formatting and mass-mailing commands for their word processor, how to model certain spread sheet functions, or how to add colour graphics to their database package.

Not surprisingly, he finds that the more experienced the user, the more difficult it is to satisfy their requirements.

Today, users are often prepared to educate themselves, battling through whatever documentation happens to be available. As micros proliferate, they'll become more demanding.

Throughout the spread of the PC

environment is likely to be accompanied by user frustration. Discrete DP managers should start preparing their organisations now.

David Ferris

## Concepts and know-how

HERE are some of the concepts and know-how you'll need to get your IBM PC working.

1. The varied world of diskette formats - for example "hard-sectored versus soft-sectored" diskettes, and Osborne CP/M versus IBM 5 1/4 inch standard PC format. Choose the wrong one and you'll be in trouble.
2. Formating diskettes - preparation of blank diskettes.
3. Special printer characteristics. For example, whether a control-L character must be sent to insert line feeds; page length; how to inhibit premature offline messages by putting sticky tape over the printer sensor.
4. Terminal control characters. For example, what character must be sent to clear the CRT screen.
5. Use of a text editor.

6. Set up of JCL files to automatically execute on power-up.

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## Package immaturity

WORDSTAR is the market leader among microcomputer word processors, and for good reason is widely regarded as an excellent and powerful product. It has recently become available for the IBM PC, and is selling very well. However, the PC version has certain shortcomings which reflect the low quality assurance standards common among PC packages:

■ Code bugs. Bug reports are common among WordStar PC users. For example, the first letter I passed to the spelling checker caused an unrecoverable crash.

■ Documentation bugs. These vary from instructions using non-existent switches to incorrect descriptions of procedures that simply don't work.

■ Poor tailoring to the hardware. For example, help screens and most of the documentation make no reference to the special function keys and the numeric key pad, even though the software itself makes use of these additional keys.

■ Confusing, ambiguous, or misleading instructions. For example, "replace page 8 of Table Of Contents" actually means "replace the eighth page, page XIII"; or you're told that you need three diskettes to run the spelling corrector when in fact you often only need one.

Thus the spread of the PC throughout corporate environments is likely to be accompanied by user frustration. Discrete DP managers should start preparing their organisations now.

David Ferris

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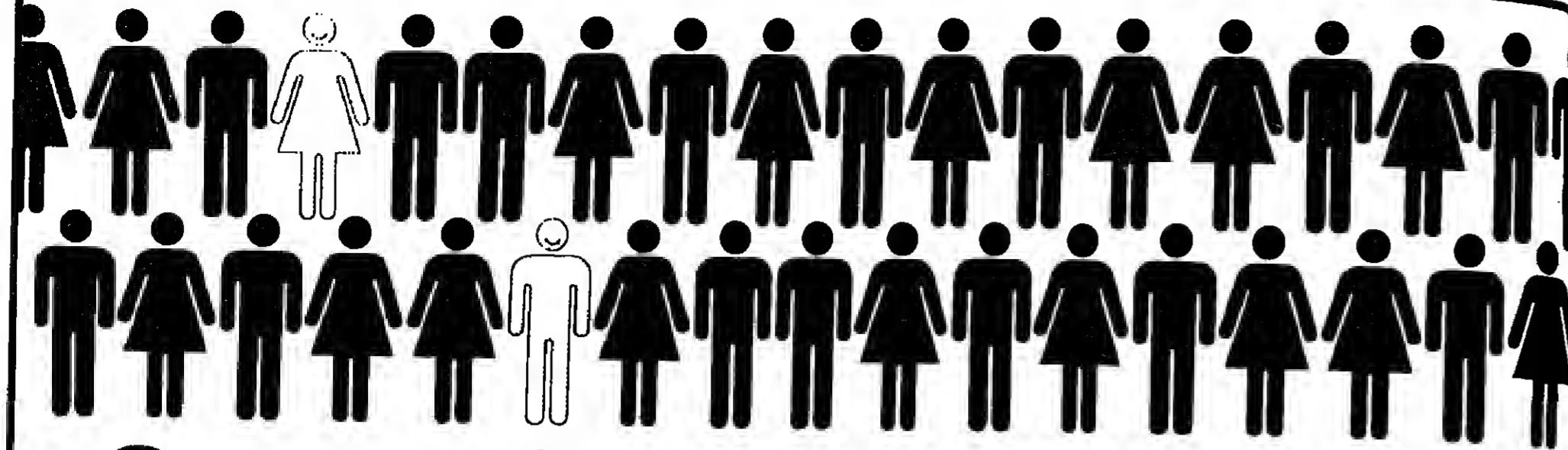
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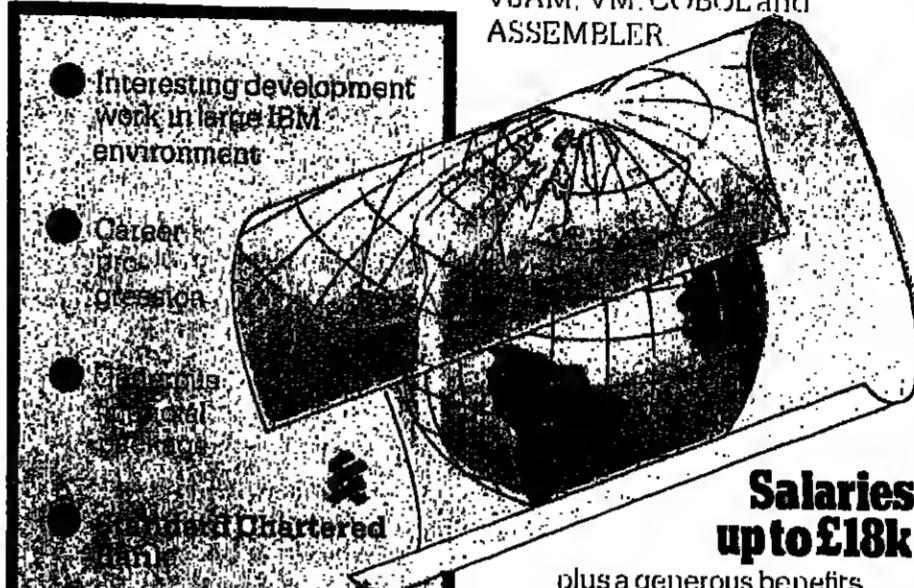
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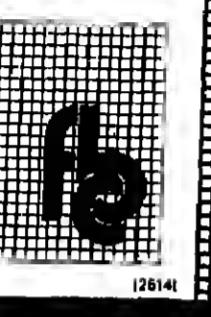
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including shift allowances

Applications are invited for the above post from suitably qualified persons. We invite from time to time suitable experienced persons. A Univac 80/38 computer is used and an alternating two-shift system is in operation: 7am to 3.30pm and 12.30 to 8pm.

Application forms and job descriptions available from Personnel Officer, Council Office, Fernborough Road, Farnborough, Hants (01): Farnborough 616222, ext 211, to be returned by 18th February, 1983.

(2497)

This is a challenging position within a small systems development project team. The successful candidate will have at least 2 years ICL COBOL preferably gained on 2900 machines running VME/B. Experience of analysis, design and implementation for on-line systems is essential.

A salary of £8,221-£9,571

including shift allowances

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Application forms and job descriptions available from Personnel Officer, Council Office, Fernborough Road, Farnborough, Hants

# Software Solutions Engineer

## HEWLETT PACKARD 3000 To £15,000

### South Wales

As a major industrial group, our Client has made substantial investment in the area of highly advanced computer technology, and is now poised ready for further significant development. A key element will be the implementation of an innovative UK wide communications network based around 3-4 large H.P. 3000 computers.

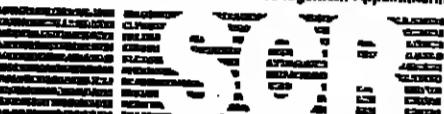
To ensure the success of this important project, our Client is seeking to recruit the best available in terms of Software Engineering skills. Consequently, they seek an individual specifically with in depth experience of Hewlett Packard 3000 Series, with communications experience, to take control of the technical aspects of the project, as well as operating on a consultative basis throughout Group Companies.

This is undoubtedly a key appointment for the Company, and every effort will be made to attract an individual with not only the high technical expertise required but also the interpersonal skills to ensure successful interface at all levels.

In recognition of the skills required, our Client is prepared to offer an extremely attractive salary plus large Company fringe benefits which will include substantial assistance with relocation.

For an interview and further information regarding this unique and challenging opportunity, contact Peter Lees on 021-236 3781 (24 hour answering service) or 0902 632141 (Evenings and Weekends).

Technical, Sales & Management Appointments



Specialist Computer Recruitment Ltd

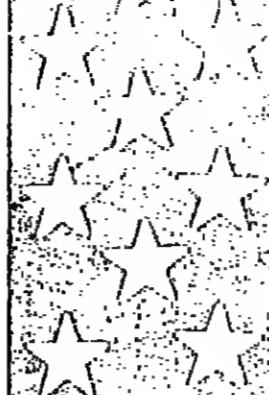
SOUTH  
James House, 46 James Street,  
London W1M 5HS  
01-935 0871/488 0461

MIDLANDS & INTERNATIONAL  
35-37 Great Charles Street,  
Queensway, Birmingham B3 3JY  
021-236 3781

NORTH  
International House, 84 Deansgate,  
Manchester M3 2ER  
061-633 0427

BELGIUM  
Avenue Louise 327,  
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Programmers who are currently in permanent employment are welcome to apply for these contract positions.

Interviews will be conducted over the next four weeks at our head office in Farnborough, Hampshire.

To discuss these exciting opportunities please call Steve Whiting on Farnborough (0252) 516141 immediately.



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# Systems Planners

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At W. H. Smith we are heavily committed to the development of our hardware and systems over the next 5 years. We seek experienced Systems Planners to join our evaluation team, in particular to make significant contributions to such areas as . . .

Point of Sale Systems — evaluating and selecting suppliers and equipment and enhancing pilot schemes through to implementation. We are well advanced in our programme of introducing a nationwide POS and electronic data capture system.

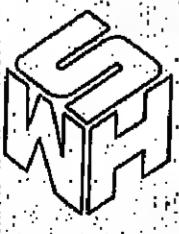
Mainframe Development — we are currently upgrading our ICL 2900 to meet our requirements over the next 5 years. You will be

involved in capacity and configuration sizing, acceptance testing and performance tuning.

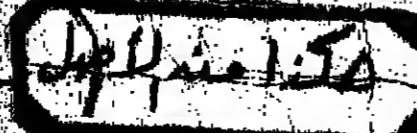
We seek experienced Systems Planners, preferably educated to degree level, with the flexibility to make a varied individual impact within a dynamic team. Experience should include extensive distributed network and/or mainframe development as appropriate.

For more information please telephone Ian Battersby on Swindon 36271 ext. 354.

Alternatively please send full career details to: J. Hanneford-Smith, Senior Personnel Officer, W. H. Smith & Son Limited, Greenbridge Road, Swindon, Wiltshire SN3 3LD.



# WH SMITH



(2290)

## WE'RE "SNOWED" UNDER WITH CONTRACTS

### IBM 34/38 RPG Converters

Various locations

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Manchester (Ref. 258)

### ANALYST PROGRAMMER SYTEL VAX 11/780

South London (Ref. 280)

### PROGRAMMERS DATA SAAB

South London (Ref. 256)

### PROGRAMMERS PDP 11 with either MACRO 11 or RSX 11

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### PROGRAMMERS MOTOROLA M6800 PASCAL

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### PROGRAMMERS HEWLETT PACKARD 3000 Image view COBOL

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Numerous contracts at all levels and most locations for: ICL 2900 or MC 29 with any of the following VME

IDMS CDDASYL SCL TP

Want to go to Florida?

Have you got IBM PL1 or FOCUS, with 5 requirements a day coming in these are only a small selection.

For more information contact Eddie, Merv or Caroline

on 02403 222201

or send your C.V. to

### H. Programming & Systems Ltd.

Plymouth House, 7 London Road, Amersham, Bucks HP7 0HE  
Tel: Amersham (02403) 22201



(2290)

## SOFTWARE and SYSTEMS SALES PEOPLE

MicroPro International Limited, one of the world's leading microcomputer software suppliers and creator of the world-famous Wordstar® package, are expanding their UK operation.

Consequently outstanding opportunities to expand your own career will be likely if you are experienced in software and systems selling, preferably with knowledge of the CP/M market.

Sales, whilst negotiable, will be in the top bracket and early appointments are envisaged. Applications with full C.V. information should be addressed to the London office marked for the attention of the Sales Director.

**SECRETARY:** A position is also vacant for a top-flight secretary who can look after all office procedures, preferably with knowledge of German. Salary around £600-£650 per month. Applicants please send C.V.s to the London office, attention Sales Director.



INTERNATIONAL LTD  
31 Dover Street, London W1  
Tel: 01-489 6777

(2290)

# A significant opportunity for a Microcomputer Specialist...

Our client is a recently created division of a major British high technology company which is expanding at a dramatic rate. An important aspect of this expansionist philosophy is the creation of the position of Systems Unit Software Specialist.

We are looking for a computer professional to become the centre of microcomputing expertise in the division. This significant appointment presents the successful candidate with the opportunity to develop divisional policy on microcomputing, agree and implement standards for information processing, and provide programming support to user departments. In addition to these key tasks you will need to cover a wide range of mini/mainframe applications from design through to implementation and training.

The successful candidate must have up-to-date knowledge of microcomputers

and programming and analysis experience, ideally using both micros and mainframes. Experience of CP/M based software packages is a requirement. This is not a backroom job so candidates must be able to influence people and to communicate lucidly at all levels.

Career prospects are excellent as this position will give you considerable exposure to senior management and it can provide you with a springboard for personal development. Salary and fringe benefits are highly competitive.

To apply, in the first instance either send a curriculum vitae or telephone for an application form quoting reference SS/CT. Please address your résumé to John Graham, who is advising the company on this appointment.

This position is open to both men and women.



## Cambridge Recruitment Consultants

1a Rose Crescent, Cambridge CB2 3LL. Telephone: 0223 311316.

### SOFTWARE SALES EXECUTIVE (CBT Market)

Following the recent successful launch of Combat, a major new software product in the computer-based training field, we require a highly-motivated and ambitious young Sales Professional to help capitalise on the enormous potential of this product.

You will have two or three years' sales experience, ideally in the mini/microcomputer field, and a real awareness of the training needs of major commercial companies.

To succeed you should be capable of identifying and selling solutions to training problems in a commercial environment.

Thorough product training will be given. If you believe you could make a major contribution to our new business as a Sales Executive in this exciting new field, we would like to hear from you.

A good basic salary, Commission, Share and Company Car are offered with this position.

Please contact: Mr Ian Inglis, Marketing Manager, Mills and Allen Communications Ltd, 1-4 Longley Court, Long Acre, London WC2E 8JY. Tel: 01-240 1367.

### CHIPPENHAM TECHNICAL COLLEGE

#### PART-TIME LECTURER IN COMPUTING

A lecturer is required to be part of a small group teaching a course introducing computing and systems analysis which the College is planning to run for the autumn term.

The course is to be run as part of the M.Sc. Training in Computing Skills programme and is intended to lead to the City & Guilds Basic Certificate in Computer Programming.

The system used will be a DEC 11/23 multi-user multi-tasking system. The successful applicant would be solely involved in the above course and would be expected to work 10 hours per week for 18 weeks during the period April to June 1983.

Terms of employment would be during the day but would be arranged to facilitate the needs of the person appointed. The current rate is £10.12 per hour, plus £1.00 per hour for travel. Please apply to the Clerk to the Governors, Chippingham Road, Chippingham, Wiltshire SN14 5CD.

(2452)

### BASIC-PLUS PROGRAMMER

Goldrei Foucard - members of the fast-expanding NORTHERN FOODS GROUP, a company with annual sales exceeding £1,000 million - are leading suppliers of high quality ingredients for the bakery and catering trades. The company has invested considerably in computerisation and wishes to appoint a

### BASIC-PLUS PROGRAMMER

who will be involved in both development and maintenance activity. The successful candidate will join a small but highly motivated team within which there will be considerable scope for initiative and originality.

Experience of programming in basic plus - ideally over a minimum of 3 years - is essential while candidates should also be familiar with file-handling techniques preferably on Systems 5000 hardware.

Terms and conditions of employment within Goldrei Foucard are competitive as would be expected from a group of our size and an attractive salary will be offered with this post.

Should you wish to be considered for the appointment, please send full details of your education, work experience and current salary to: Mrs. B. Dunn, Assistant Personnel Superintendent.

John Parr, Personnel Manager, Ch. Goldrei Foucard & Son Ltd, Brookfield Drive, Aintree, Liverpool L9 7AW.

(2441)

LONDON BOROUGH OF HARINGEY  
TOTTENHAM COLLEGE OF TECHNOLOGY  
Highgate, London N15 4RU  
Telephone: 01-802 3111

### COMPUTER TECHNICIAN Grade 7.5

Required for the College Computer Unit. The successful candidate will have a minimum of H.N.D. or G.C.S.E. in Computing or equivalent qualification and will preferably have an experience of UNIX, C, and PASCAL. A knowledge of RSTS/E would be an advantage. The post will involve a variety of work including programming, operations management and user advisory/ liaison. Salary scale: £23,360 to £28,922 per annum, plus £1,000 per annum. Application forms and further details from the Principal (G.O.) returnable within 14 days of the advertisement.

(2457)

### OPERATIONS SUPERVISOR

PROVINCIAL INSURANCE p.l.c. have a vacancy, caused by promotion, for an Operations Supervisor to head one of the shifts in a two shift working environment.

The hardware consists of a Honeywell Level 66 DPS 52 Mainframe with distributed Computer Automation Sy/As, mini computers.

The successful applicant will have a Honeywell operating background, probably currently a shift leader in a medium/small installation or senior operator in a larger one. The starting salary and allowances will be up to £8,562 per annum. Other benefits include a subsidised house purchase scheme. Assistance will be given with relocation expenses.

Please write giving details of age, experience and current salary to: Mrs. B. Dunn, Assistant Personnel Superintendent.

Provincial Insurance Public Limited Company, Stamfordgate, Kendal, Cumbria LA9 4BE.

(2441)

Should you wish to be considered for the appointment, please send full details of your education, work experience and current salary to: Mrs. B. Dunn, Assistant Personnel Superintendent.

John Parr, Personnel Manager, Ch. Goldrei Foucard & Son Ltd, Brookfield Drive, Aintree, Liverpool L9 7AW.

(2441)

### SENIOR SALES ACCOUNT MANAGEMENT £16,000 GUARANTEE

Major International Electronics giant - secure and growing fast (1982 profits increase 20%+) need ambitious career professionals looking for a move up.

Vigorous growth in their computer division will be maintained by astute management of a "Blue Chip" user base and aggressive marketing in new business.

They offer: Extensive training  
Competitive products  
First-class support  
Experienced/respected management  
Lucrative financial package  
Excellent career prospects

Are you ready for a challenging career move - Call now:

REF. NS.103

### BRANCH SALES MANAGER

LONDON £30,000

\$32M Corporation selling £70-£300k Systems with an installed base exceeding 1800 are offering this rare management opportunity.

You will lead a team of five senior sales professionals and have total responsibility for achievement of sales targets within budget.

They're offering a generous base salary plus initial guarantee (c£23k) and executive car, interviewee are being held now so call today!

REF. NS.106

(2458)

### AB EXECUTIVE (WEYBRIDGE) 0932 41321

### MICRO SOFTWARE SUPPORT & DEVELOPMENT

Industry leader in micro database software opened UK office January - already needing to hire senior support people.

Programmer/Analyst required to support dBASE II users and develop their applications.

If you are the person we are looking for:

★ You'll probably know who we are.  
★ You'll have experience of applying micros in commercial/industrial applications.  
★ You'll have experience in one or more of dBASE II, COBOL/REPORT GENERATORS/ASSEMBLY LANGUAGES/CP/M.

Growing at the speed we are your career development will be extensive. Planned activities include dealer seminars, software evaluation and novel applications. Excellent starting package - training in California. Please reply in writing with full cv to:

ASHTON-TATE (UK) LIMITED  
1 Lancaster Park  
Richmond  
Surrey TW10 8AG

(2459)

### DP OPERATIONS SUPERVISOR VDU OPERATORS

Leading manufacturer in high technology knit fabric following reorganisation is currently determining its computer applications strategy: their replacement using interactive processing, etc., on new minicomputer computer. The person sought to assist in this challenging opportunity will be joining an enthusiastic compact team and help enhance long-term career prospects.

Applicants must display analytical and methodical approach, with competence in systems design and programming and implementation. At least one year's experience in each. A working understanding of the production and commercial functions is a distinct advantage.

Applications invited with c.v. to:

Mr. K. J. Bell, Kratos Computer Systems, 8700 St. Albans Road, Watford, Herts WD2 4JL. Telephone: 0703 812171.

(2459)

GUILFORD KAPWOOD

WE ARE AN EQUAL OPPORTUNITY EMPLOYER

TV-CM

(2459)

### Customer Engineers

This is your opportunity to join Storage Technology, world leaders in the design, manufacture and supply of IBM compatible data storage products.

With our policy of close co-operation from research and development through to after sales service we aim to ensure that our products meet the real needs of our customers.

That is why we need customer engineers who are a cut above the rest

- high performers to complement our reputation and our success.

Naturally, we offer the rewards to match:

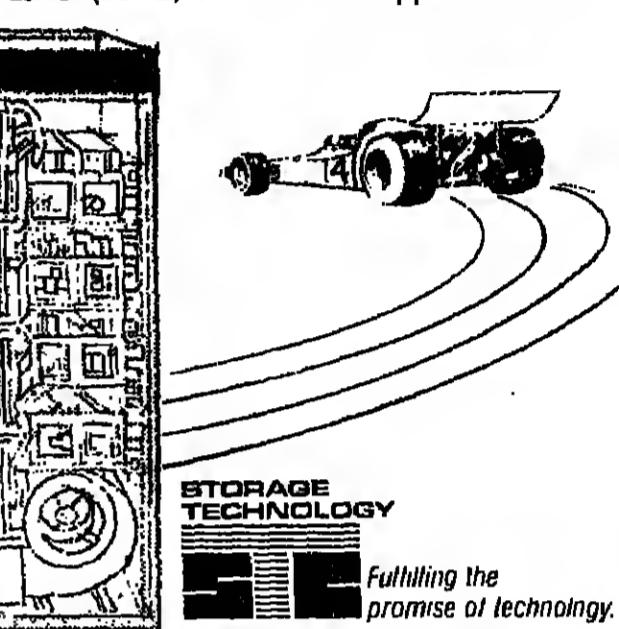
- A highly competitive basic salary
- Generous overtime and standby allowances
- 2 litre company car
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- On-going product training.

Substantial growth in our installed base in the UK means expansion of our field service

teams countrywide. Many opportunities exist in London and the South and we also have openings in the Midlands and the North.

If you have a good knowledge of IBM and/or IBM compatible systems and peripherals, specifically tapes, disks and printers; if you can combine technical ability with good customer relations skills, we would like to hear from you.

Write now with full personal and career details to our Personnel Manager, Storage Technology Limited, Churston House, Portmouth Road, Esher, Surrey, or telephone Esher (0372) 67041 for an application form.



# High performance professionals for high performance systems

## Young IBM Programmers

Career Opportunities In

### Management Consultancy

to £13,000

First-class training  
Excellent prospects

#### London Based European Travel

One of the World's top management consultancies seeks Junior Consultants to join high-powered project teams working on assignments throughout the Government, Industrial, Commercial and Financial Sectors.

You will be involved in:-

- ★ The design, development and implementation of complex systems;
- ★ Computer policy planning, equipment selection and installation;
- ★ Feasibility studies and computer efficiency reviews;
- ★ DP organization studies and procedures development.

Ideally you will possess a sound academic background (preferably degree level) and will have gained 2-4 years' experience of Commercial Programming. Strength of personality and communicative ability will be important factors.

Training the first order - In addition to the Company's own in-depth training in Business and Management methods, considerable use is made of external courses in advanced computer techniques.

Prospects are excellent - successful candidates will be expected to progress rapidly into senior DP consultancy positions, with opportunities to diversify into other fields of business.

OTHER BENEFITS include frequent salary reviews on merit, generous travel and accommodation expenses, subsidised BUPA.

If you are seeking a career path that could take you right to the top, please telephone or write quoting Ref CW 2988.

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# UNITED ARAB EMIRATES

## SYSTEMS ANALYST/PROGRAMMER

Datamation Systems is the largest and longest established bureau and software house in the United Arab Emirates. The staff of over 90 employees provide for its large client base a wide range of data processing services over various types of hardware.

In our planned expansion programme, we now have an excellent opportunity for someone with strong experience in systems specification, design and implementation. A detailed knowledge of RPG II and IBM System 34 is also essential.

In our growth plans, there is considerable potential for the right applicant.

This is a permanent position with the usual accommodation, leave, travel conditions, etc. applicable in this area.

Applications with cv (treated in strict confidence) should be addressed to:

**Datamation Systems**  
P.O. Box 8040  
Dubai, U.A.E.

Computer Consultants & Personnel Services

**task**  
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(0782) 410217  
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### NORTH MIDLANDS COMMS SOFTWARE PROG.

— Experience of low level IBM Binary Synchronous Protocols  
Duration: Long contract

Start date: Feb/March

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Duration: 2 months+

Start date: ASAP

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Start date: March

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— Siemens experience  
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Start date: March

## NEW PRODUCT LAUNCH

### £11-£16K plus Car

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Technical, Sales & Management Appointments

**STI**  
Specialist Computer Recruitment Ltd

The complete reorganisation of our Client's European operation, to reflect a new product launch, has necessitated the recruitment of three Software Specialists for their Headquarters in Twickenham.

The Company manufactures, develops and markets information processing and communications products, for use within a wide range of data communication terminals, PABX's and networks.

Utilising DEC PDP11 equipment under RSTS/E as a development tool, products are based currently on Motorola 6802 microprocessors, utilising BASIC+. Current developments include the introduction of Motorola 6809 microprocessor based systems utilising the 'C' language.

Applicants for the above positions must possess solid technical experience in some of the following areas:

\* REAL-TIME \* LOCAL AREA NETWORKS

\* DEC PDP \* MICROPROCESSORS

\* FORTRAN \* BASIC \* PASCAL \* MICRO ASSEMBLER

In addition to the above, applicants must exhibit sound written and verbal communication skills.

As part of a closely knit technical team in an Organisation regarded as market leaders in their own particular field, successful applicants will be given complete product software development responsibilities from the outset.

In addition to a highly competitive starting salary and associated International Company benefits, our Client offers the addition of a Company car at the senior level.

For further information please contact Adrian Hardy on 01 935 0671 (24 hour answering service) or Ashford, Midx (07842) 46026 (evenings and weekends) or alternatively furnish him with a Curriculum Vitae to the London office quoting reference AH461.

(2494)

**SOUTH**  
James House, 16 James Street,  
London W1M 5HS  
01-935 0671/486 0461

**MIDLANDS & INTERNATIONAL**  
35-37 Great Charles Street,  
Queensway, Birmingham B3 3JY  
021-238 3781

**NORTH**  
International House, 84 Deansgate,  
Manchester M2 2ER  
061-833 0427

**BELGIUM**  
Avenue Louise 327,  
1050 Brussels  
010 322-640 7151/71

**HOLLAND**  
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**DALROTH**

## Systems Expertise Sales Potential

Basic £10,500 + car + commission

(on quota earnings of £16,000)  
(Existing staff have exceeded this figure)

SyncSort Technology Limited, with their headquarters in Berkshire, market and support their own products in the UK and Europe. The Company have an established and satisfied customer base for their OS, DOS and CMS software products and currently have two vacancies:

For one of the positions the successful applicant will have a background in any of the following: Systems Programming/Systems Engineering, Systems Support/Operations Support, Assembler Programming and ideally experience in OS, DOS and CM/CMS.

For the other position a sales background is essential (the need not have been in DP), plus a minimum of 1½ years in one of the above functions in an IBM installation.

The Company is willing to consider a negotiable package to suit the right individual, and will of course offer full training in their products, both in Europe and the USA.

For further information please write to Dalroth and Partners, 4 Half Moon Street, London W1Y 7RA, quoting ref. 9948, or telephone Jenny Dalrymple-Hay, day/1/ma 01-493 2947; evenings Beaconsfield (04948) 4579, or Graham Cottingham, daytime Reading (0734) 478335, evenings (0734) 474129.

DALROTH & PARTNERS LTD 4 HALF MOON STREET LONDON W1

### SYSTEMS ANALYSTS & SUPPORT CONSULTANTS

C. £8,000 + BONUS

The Systems Analysts will have proven experience in all the basic systems development skills, with the ability and desire to develop these skills further.

The Support Consultants will join a small support group in a pre/post-sale environment providing support to our customer base and sales division.

All applicants should have solid experience in a variety of the following:

ICL SYSTEM 10/25  
ICL SYSTEM 1500/DRS  
SYSTEMS ANALYSIS/DESIGN  
CUSTOMER SUPPORT  
SALES SUPPORT  
SOFTWARE & HARDWARE EVALUATION

In return we offer a competitive remuneration package with the opportunity for personal development within a flexible and unrestricting working atmosphere.

WE ARE A SUCCESSFUL AND EXPANDING SYSTEMS HOUSE - BECOME PART OF THAT SUCCESS - PICK UP THE PHONE NOW!

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Barron McCann House  
9 Shortmead Street, Biggleswade, Beds.  
Telephone:

0767 316286 (day)  
0480 891018 (evening)  
reversing the charges

**Barron  
McCann**  
Limited  
Computer Systems and Consultancy

### ANALYST/PROGRAMMERS

CITY £ Neg

Several exciting opportunities have arisen for persons with a strong programming background and analysis skills to join a major Systems House. Working exclusively with Banking clients in support and development roles, excellent career opportunities are available for applicants with DEC, VAX and PDP experience and thorough BASIC programming knowledge. Financial applications experience would be particularly welcome and exposure to Banking Systems very relevant.

### ANALYSTS

CITY £ Neg+Mortgage

A leading City insurance Company, with a heavy commitment to the development of new systems, urgently requires two Systems Analysts to join their team. At least one year's formal analysis experience is necessary for the Junior position and three years' for the Senior, a COBOL programming background gained in a ICL environment is required in both instances. These are excellent opportunities offering wide scope for personal advancement, and attracting a full range of benefits including Mortgage facility to compliment the basic salary.

### SENIOR PROGRAMMER

N.E. MIDDLSEX £ 10,500

A manufacturing company, leader in its field, is seeking a Senior Programmer to head a small team involved in Materials and Production Control systems development. A strong ICL COBOL background is required with experience of 2800 DME or VME being particularly relevant. If you already are leading a team, or feel that you are ready to take the responsibility, this is an excellent opportunity to progress.

### ANALYST PROGRAMMER

CITY £ 12,000

Our client, a City based comodities House, currently utilising DEC equipment working under RSTS/E requires a further Analyst/Programmer with sound experience of BASIC and/or BASIC + 2. An application background involving financial or general commerce work would be advantageous, but is not essential as a good knowledge of the Programming/Software disciplines is of prime importance. A Salary commensurate with experience will be paid plus generous Company benefits.

Apex Computer Recruitment Ltd.

404 4821

London Office:  
39 Grays Inn Road,  
London WC1X 8LT.  
Tel: 01-404 4821.

Brussels Office:  
Rue Galli de Gomond,  
24 Ursus 1080 Brussels,  
Tel: 010 322 377 493.

### GET TO GRIPS WITH A 38

Our client is a major financial institution based in the City. They currently have an IBM System 34 and will be upgrading to a System 38 in the early part of this year.

At a crucial stage in their development programme they are now looking for two people to supplement their existing development team and become actively involved in a variety of challenging projects.

### PROJECT LEADER

Up to £14,000 + Benefits

You must have first rate design skills, a solid background in System 34/38 programming and have experience of running a small development team. Knowledge of financial applications and databases will be an advantage.

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